Chapter 2. Effectiveness

Cancer

Importance[i] and Measures

Prevalence and Incidence

- The number of new cancer cases is projected to reach over 1.4 million in 2004.
- Four cancers—lung, colorectal, breast, and prostate—account for over half of the new cases.

Morbidity and Mortality

- Cancer is the Nation's second leading cause of death, after heart disease.
- The number of cancer deaths is expected to top 560,000, or over 1,500 per day, in 2004.

Cost

- Cancer is among the most expensive diseases. Total expenses are projected to reach $189.5 billion in 2003, including over $64.2 billion in total direct health care expenses.

Measures

Evidence-based consensus on what comprises good quality care and how to measure it currently exists for only a few cancers and a few aspects of care, including screening and the incidence of advanced stage detection for breast, cervical, and colorectal cancers. Mortality rates are also an accepted distal measure of outcome. Because colorectal cancers have the highest mortality and advanced stage detection rate and the lowest screening rate, measures highlighted in this section are:

- Trends in colorectal cancer mortality
- Advanced stage detection rate
- Screening for colorectal cancer

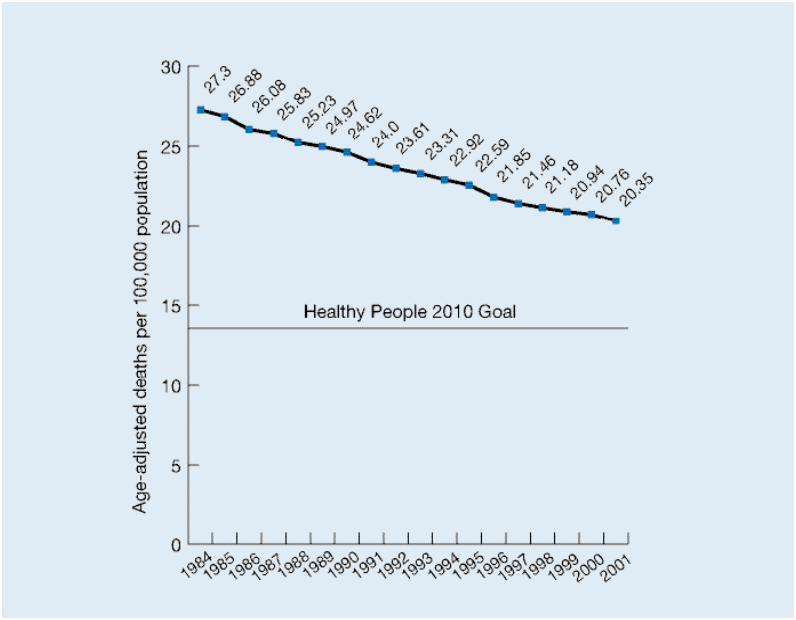
[i]Statistics are from the American Cancer Society, Cancer Facts and Figures; 2003 (see http://www.cancer.org).

Findings

Trends in Colorectal Cancer Mortality

The NHQR tracks both process and outcome measures of quality. The ultimate outcome of the quality of care offered for cancer is the death rate from leading cancers. Colorectal cancer mortality is measured below as the number of deaths per 100,000 persons.

Figure 2.1. U.S. death rate for colorectal cancer, 1984-2001



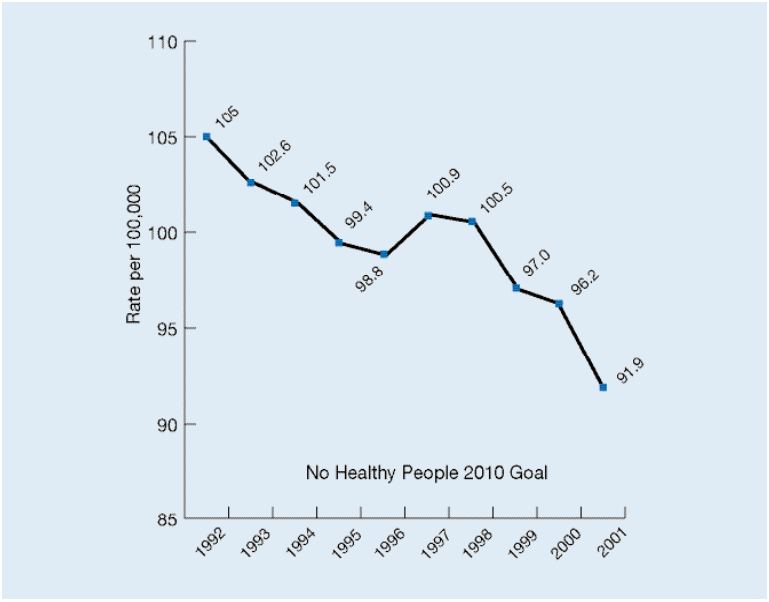
Source: Centers for Disease Control and Prevention, National Center for Health Statistics data, National Vital Statistics System-Mortality (analyzed by National Cancer Institute).

- Colorectal cancers are the second leading cause of cancer mortality with 56,000 deaths projected in 2004.
- The death rate from colorectal cancers has been falling steadily since 1984 by an average of almost 2% per year (Figure 2.1).
- The Healthy People 2010 goal of 13.9 deaths per 100,000 people will not be met if the long-term trend continues at its current pace.

Advanced Stage Detection Rate

Cancers can be diagnosed at different stages of development. Monitoring the rate of cases of cancer that are diagnosed at late or advanced stages is a good measure of the effectiveness of cancer screening efforts.

Figure 2.2. Rate of new cases of advanced stage colorectal cancer, 1992-2001



Source: National Cancer Institute, Surveillance, Epidemiology, and End Results (SEER) Program, released April 2004, based on the November 2003 submission.

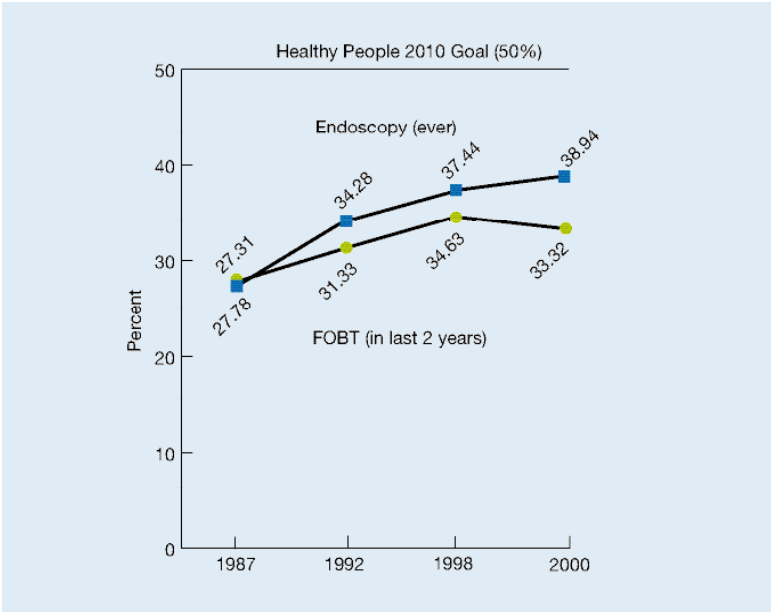
Note: Denominator includes men and women age 50 and over. Numerator includes those in the age group diagnosed at an advanced stage (tumors diagnosed at regional or distant stage). Rates are age adjusted to the 2000 U.S. population.

- The incidence rate of advanced stage colorectal cancer has steadily declined between 1998 and 2001 on the average of 2.9 per 100,000 per year for people 50 years of age and older.
- The largest 1-year drop of the last decade (4.3 new cases per 100,000) was for the most recent year of data, 2001 (Figure 2.2).

Screening for Colorectal Cancer

National guidelines support the use of two types of colorectal cancer screening, colorectal endoscopy and fecal occult blood testing (FOBT). Guidelines suggest that FOBT is most effective when done at 1- to 2-year intervals, while research is ongoing on the optimal timing for endoscopy.

Figure 2.3. Percent of adults (ages 50+) who had colorectal cancer screening, by type, 1987-2000



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey (analyzed by the National Cancer Institute).

- The trend for colorectal screening with endoscopy has been rising since 1987 to 39% of the population age 50 and over in 2000 (Figure 2.3). However, at that rate, the HP2010 goal of 50% will not be met.
- The trend for colorectal screening with FOBT rose between 1987 and 1998 and then showed no change between 1998 and 2000. At this rate of change, the HP2010 goal of 50% will not be met.
- Although the screening rate for colorectal cancers has been increasing overall, less than half of Americans age 50 and over—about 45 million people—are screened for colorectal cancer by FOBT in the last 2 years or endoscopy ever.

List of Measures: Cancer

Measure	Year	National estimate	National table number	State table number
Screening for breast cancer:				
Percent of women (age 40 and over) who report they had a mammogram within the past 2 years	2000	70.3	1.1a	1.1b
Rate of breast cancer incidence per 100,000 women age 40 and over diagnosed at advanced stage (regional, distant stage or local stage w/tumor greater than 2 cm)	2001	149.7	1.2	xxx
Screening for cervical cancer:				
Percent of women (age18 and over) who report that they had a Pap smear within the past 3 years	2000	81.4	1.3a	1.3b
Rate of cervical cancer incidence per 100,000 women age 20 and over diagnosed at advanced stage (all invasive tumors)	2001	12.1	1.4	xxx
Screening for colorectal cancer:				
Percent of men and women (age 50 and over) who report they ever had a flexible sigmoidoscopy/ colonoscopy	2000	38.9	1.5a	1.5b
Percent of men and women (age 50 and over) who report they had a fecal occult blood test (FOBT) within the past 2 years	2000	33.3	1.6a	1.6b
Rate of colorectal cancer incidence per 100,000 men and women age 50 and over diagnosed at advanced stage (tumors diagnosed at regional or distant stage)	2001	91.9	1.7	xxx
Cancer treatment:				
Cancer deaths per 100,000 persons per year for all cancers	2001	196	1.8a	1.8b
Cancer deaths per 100,000 persons per year for most common cancers: prostate cancer	2001	29.1	1.9a	1.9b
Cancer deaths per 100,000 persons per year for most common cancers: breast cancer	2001	26	1.10a	1.10b
Cancer deaths per 100,000 persons per year for most common cancers: lung cancer	2001	55.3	1.11a	1.11b

List of Measures: Cancer *(continued)*

Measure	Year	National estimate	National table number	State table number
Cancer treatment: *(continued)*				
Cancer deaths per 100,000 persons per year for most common cancers: colorectal cancer	2001	20.1	1.12a	1.12b
Deaths per 1,000 admissions with esophageal resection for cancer	2001	89.408	1.13	xxx
Deaths per 1,000 admissions with pancreatic resection for cancer	2001	67.295	1.14	xxx

Note: See Tables Appendix for national and State tables listed above.

Diabetes

Importance and Measures

There are three forms of diabetes. All forms of diabetes are characterized by elevated blood glucose, which can cause a number of complications over time if not controlled.[1]

Prevalence and Incidence

- In 2003, the number of adults with diagnosed diabetes was 13 million. With the addition of 5.2 million undiagnosed cases, the total prevalence of diabetes was 6.3%.
- According to the Centers for Disease Control and Prevention (CDC), in 2002 the number of new cases of diabetes in adults was 1.3 million.
- The number of cases of diagnosed diabetes is projected to increase 165% between 2000 and 2050, from 12 million to 39 million.[2]

Morbidity and Mortality

- Diabetes is the leading cause of blindness, nontraumatic lower extremity amputation, and end stage renal disease and increases the risk of complications with pregnancy.
- Diabetes was the sixth leading cause of death in the United States in 2001.[3]
- People with diabetes are generally at twice the risk of death and are two to four times more likely to die from heart disease or stroke than those without diabetes.[1]

Cost

- In 2002, costs of diabetes totaled $132 billion, including about $92 billion in direct medical expenditures and about $40 billion in lost productivity and premature death.[4]

Measures

The NHQR diabetes measures include five recommended diabetes interventions and measures of associated outcomes (such as cholesterol and blood pressure levels and diabetes-related complications and hospital admissions). Measures highlighted in this section include:

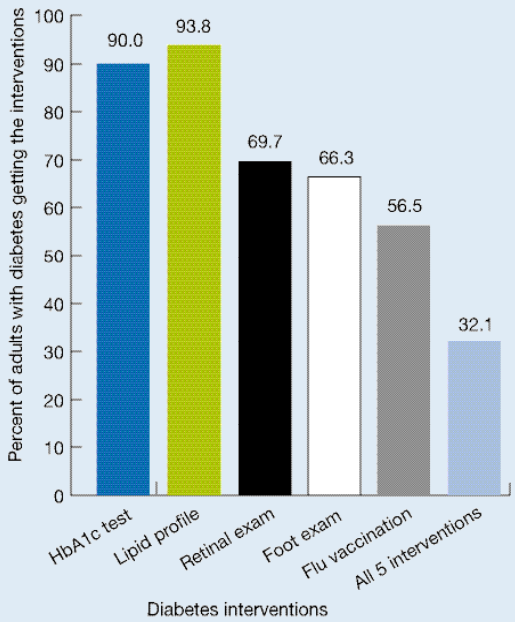
- Receipt of recommended interventions for diabetes management
- State variation in HbA1c testing
- Hospital admission rates for long-term diabetes complications (renal, eye, neurological, circulatory, or complications not otherwise specified, excluding pregnancy-related diabetes)

Findings

Receipt of Recommended Interventions for Diabetes Management

The NHQR tracks the national intervention rates for each of five recommended diabetes interventions as well as a composite of the respondents who received all five interventions.

Figure 2.4. Adults age 18 and over with diabetes who received HbA1c test, lipid profile, retinal exam, foot exam, and influenza vaccination, and rate for receipt of all five tests, 2001



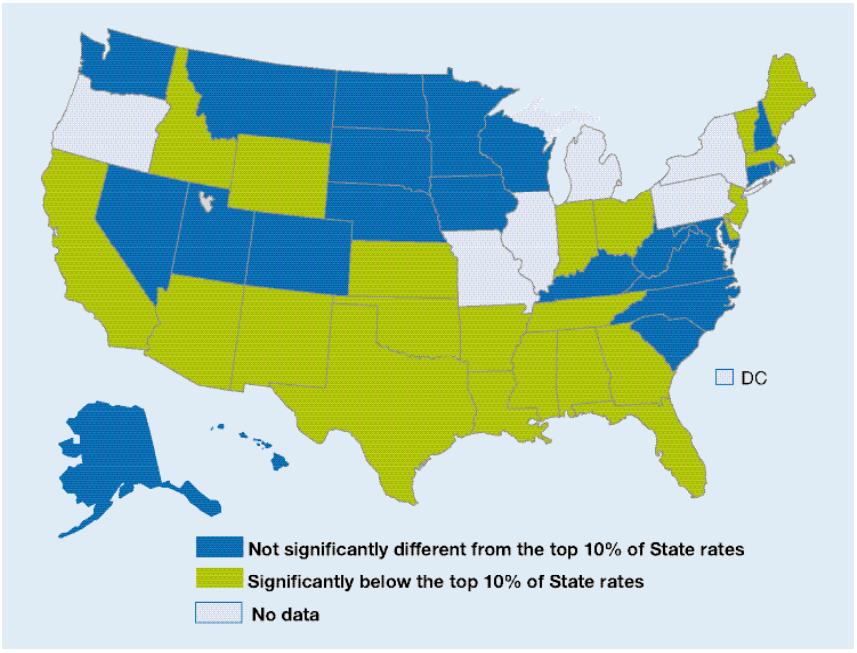
Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2001.

- Approximately one-third of adults with diabetes received all five interventions recommended for comprehensive diabetes care in 2001 (Figure 2.4).
- The national rate for HbA1c testing at least once annually for adults with diabetes age 18 and over was nearly 90% in both 2000 and 2001.
- In 2001, nearly 94% of diabetics had a lipid profile sometime in the previous 2 years. Although controlling cholesterol can significantly reduce the risk for cardiovascular disease in individuals with diabetes, about 60% have their most recent LDL cholesterol at a minimally acceptable level of <130 mg, and 32% have it at an optimal level of <100 mg, up from 8% in 1988-94 (National Health and Nutrition Examination Survey [NHANES], 1999-2000).
- In 2001, only two-thirds of people with diabetes reported having regular foot exams in the past year. People with diabetes account for over 60% of nontraumatic lower extremity amputations; foot care and preventive exams can reduce rates of such amputation by 45%-85%.[1] All individuals with diabetes should receive an annual foot examination to identify high-risk foot conditions.[5]
- People with diabetes are considered at an increased risk for complications from influenza. Just over half of adults (56.5%; see Tables Appendix, Table 1.19a) with diabetes received an influenza vaccination in 2001.

State Variation in HbA1c Testing

Variation across the country is one measure of the consistency with which care is offered. Examining State variation in diabetes testing rates can offer lessons on opportunities for improvement.

Figure 2.5. State variation in rates of receipt of HbA1c testing for adults, 2002



Source: Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, 2002.

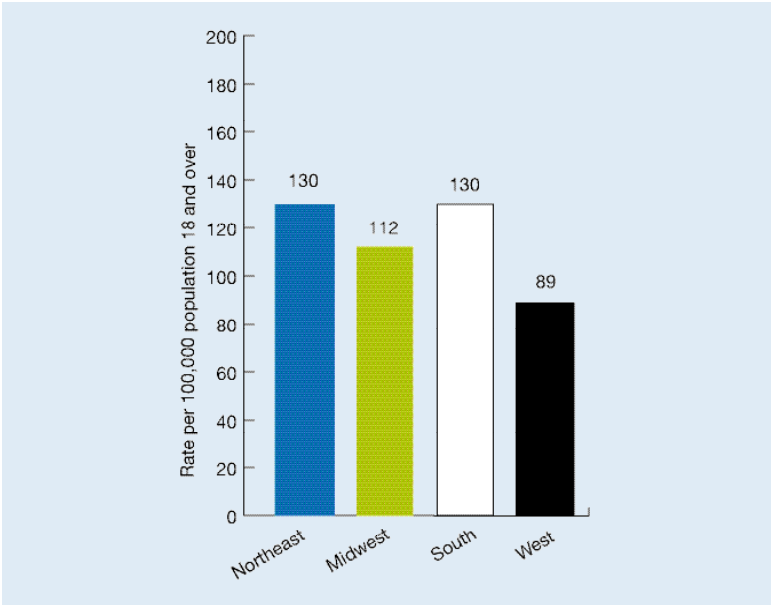
- Performance is high across the country relative to other diabetes measures. Half of the reporting States had rates that were not statistically different from the mean of the top decile of States (94.2%) and nearly a quarter of reporting States had rates over 90% (Figure 2.5).
- The State rates of reporting States for at least one HbA1c test for people with diabetes in 2002 ranged from 77.1% to 96.3%. Variation across States is lower for this measure than other diabetes quality measures—retinal exams, foot exams, and influenza immunization.
- Uniformly high performance is not seen when assessing the percentage of patients having two or more HbA1c tests per year (a standard tracked by BRFSS). State averages of reporting States are more varied than for one or more times per year, ranging from 53.4% to 82.6%.[i]
- Although the HbA1c testing rates for most reporting States did not change significantly between 2001 and 2002, South Carolina, West Virginia, and Wyoming each showed significant improvement over their previous rates.

[i]Alaska's rate is 42.9%, SE=11.8 and N=129. Because of the large standard error and small N, this rate is left out of the range of values.

Hospital Admissions for Long-term Diabetes Complications

Admissions for conditions that can be managed in an outpatient setting is one indicator of the effectiveness and timeliness of outpatient care. Quality diabetes care captured in the NHQR diabetes process measures will ideally result in lower admissions for long-term complications. However, admissions for diabetes may also be an indicator of access to care, patient compliance, and other factors. Long-term complications include renal, eye, neurological, circulatory, or complications not otherwise specified and do not include pregnancy-related diabetes.

Figure 2.6. Adult admissions per 100,000 population 18 and over (general population) for long-term complications of diabetes, by region, 2001



Source: Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project, Nationwide Inpatient Sample, 2001.

- The estimated national rate of hospital admissions of the general population for long-term complications of diabetes in 2001 was just over 117 per 100,000 adult population.
- There is significant variation across regions with regard to hospital admissions for long-term diabetes complications. Admission rates in the Northeast and South are approximately 16% higher than in the Midwest and 47% higher than in the West (Figure 2.6). This measure is influenced by State variation on diabetes prevalence.
- Individuals living in areas with a median income of less than $25,000 per year are hospitalized for long-term complications more than twice as often as those living in areas with median income of $45,000 or more.
- The difference in hospital admissions for long-term complications between men and women is highly significant, with women 22% less likely than men to be admitted.

List of Measures: Diabetes

Measure	Year	National estimate	National table number	State table number
Management of diabetes:				
Percent of adults with diabetes who had a hemoglobin A1c measurement at least once in past year	2001	90.0	1.15a	1.15b
Percent of patients with diabetes who had a lipid profile in past 2 years	2001	93.8	1.16	xxx
Percent of adults with diabetes who had a retinal eye examination in past year	2001	69.7	1.17a	1.17b
Percent of adults with diabetes who had a foot examination in past year	2001	66.3	1.18a	1.18b
Percent of adults with diabetes who had an influenza immunization in past year	2001	56.5	1.19a	1.19b
Percent of adults with diagnosed diabetes with HbA1c level < 7.0 % (optimal);	1999-2000	38.30	1.20	xxx
> 9 % (poor control)	1999-2000	28.60		
Percent of adults with diagnosed diabetes with most recent LDL-cholesterol level < 130 mg/dL(minimally acceptable);	1999-2000	60	1.21	xxx
<100 mg/dL (optimal)	1999-2000	32.9		
Percent of adults with diagnosed diabetes with most recent blood pressure <140/90 mm/Hg	1999-2000	59.3	1.22	xxx
Hospital admissions for uncontrolled diabetes per 100,000 population	2001	26.822	1.23a	1.23b
Hospital admissions for short term complications of diabetes per 100,000 population	2001	52.367	1.24a	1.24b
Hospital admissions for long term complications of diabetes per 100,000 population	2001	117.098	1.25a	1.25b
Hospital admissions for lower extremity amputations in patients with diabetes per 100,000 population	1999-2001	5.6	1.26a	1.26b

Note: See Tables Appendix for national and State tables listed above.

References

1. Centers for Disease Control and Prevention. National diabetes fact sheet: general information and national estimates on diabetes in the United States, 2003. Rev ed. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention; 2004. Available at: http://www.cdc.gov/diabetes/pubs/pdf/ndfs_2003.pdf. Accessed May 18, 2004.
2. Honeycutt AA, Boyle JP, Broglio KR, et al. A dynamic Markov model for forecasting diabetes prevalence in the United States through 2050. *Health Care Manag Sci* 2003;6(3):155-64.
3. Arias E, Anderson RN, Kung HC, et al. Deaths: final data for 2001. *Natl Vital Stat Rep* 2003;52(3):1-115.
4. Hogan P, Dall T, Nikolov P. Economic costs of diabetes in the US in 2002. *Diabetes Care* 2003;26(3):917-32.
5. Mayfield JA, Reiber GE, Sanders LJ, et al. Preventive foot care in diabetes. *Diabetes Care* 2004;27 Suppl 1:S63-4.

End Stage Renal Disease

Importance and Measures

End stage renal disease (ESRD) is the complete or nearly complete shutdown of kidney functions requiring lifetime renal replacement therapy (either dialysis or kidney transplantation).

Prevalence and Incidence

- Over 400,000 people have ESRD in the United States.
- Almost 100,000 new ESRD patients begin renal replacement therapy each year, and the disease is on the rise.
- It is estimated that by 2030, there will be approximately 2.2 million ESRD patients in the Nation.[1]
- Diabetes is the most common cause of ESRD, and it is expected to surpass all other causes combined in terms of ESRD incidence by 2006 and of ESRD prevalence by 2018.[2]

Morbidity and Mortality

- Without treatment, ESRD is fatal. Even with dialysis treatment, 20% of ESRD patients die yearly.
- Most ESRD patients are on hemodialysis at a dialysis center 3 days a week, which seriously affects their quality of life.

Cost

- Expenditures for ESRD totaled almost $23 billion in 2001 (Medicare and non-Medicare).
- According to the Medicare program, ESRD expenditures totaled over $15 billion, 6.4% of the total Medicare budget in 2001.[1]

Measures

The NHQR includes six measures to assess the quality of care provided to renal dialysis patients. Two measures are highlighted in this section:

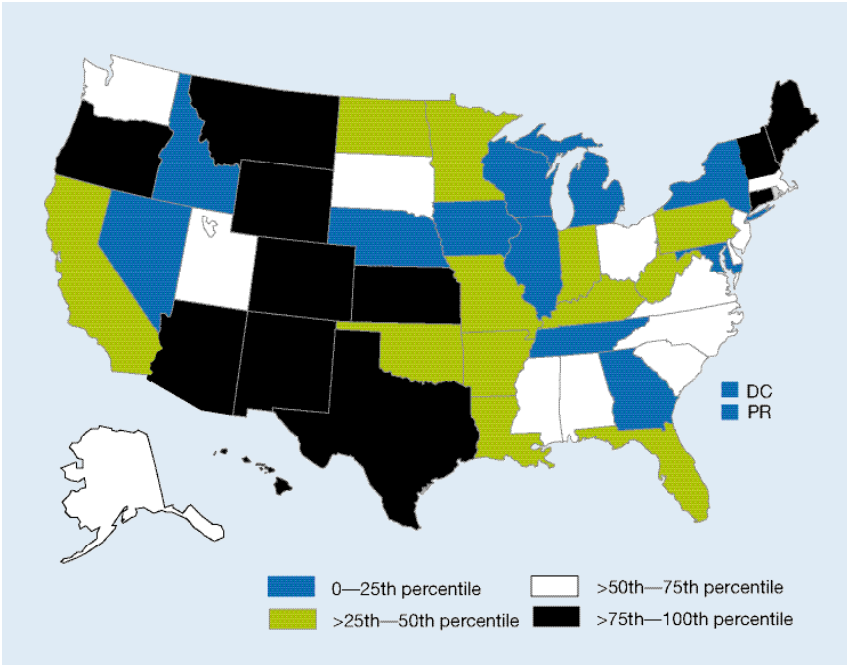
- Adequacy of hemodialysis, as measured by patient's urea reduction ratio (URR)
- Percent of hemodialysis patients using arteriovenous fistulas (AVFs) for vascular access

Findings

Adequacy of Hemodialysis

The adequacy of dialysis is measured by the percent of hemodialysis patients with a urea reduction ratio equal to or greater than 65; this measure indicates how well urea, a waste product in the blood, is eliminated by the artificial kidney. The first NHQR reported that 88.6% of in-center hemodialysis patients were receiving adequate dialysis as measured by urea reduction ratio of 65 or greater.

Figure 2.7. State variation in percent of hemodialysis patients with urea reduction ratio of 65 or greater



Source: University of Michigan Kidney Epidemiology and Cost Center, 2002

Note: Values for quartiles are: 0-25th percentile=85.79%-88.71%; >25th-50th percentile=88.82%-90.38%; >50th-75th percentile=90.49%-92.43%; >75th-100th percentile=92.94%-96.04%.

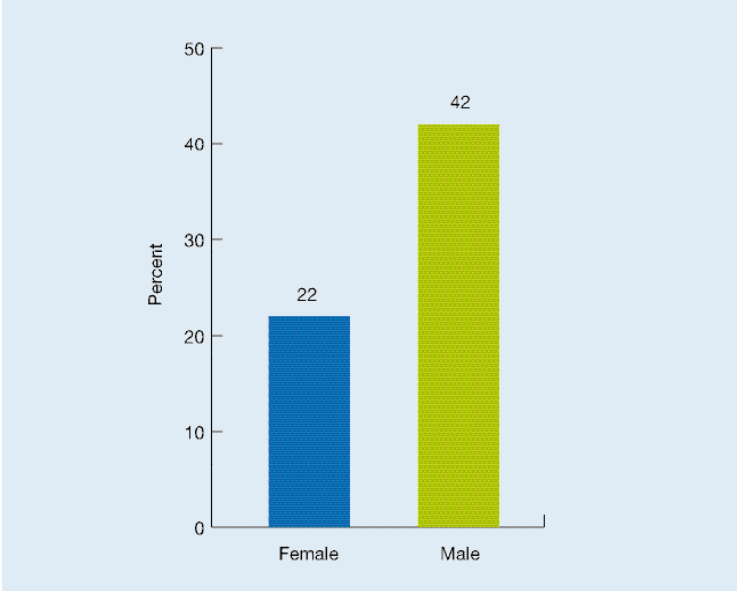
- Variation among the States for urea reduction ratio of 65 or greater in hemodialysis patients ranged from 86% to 96% (Figure 2.7).
- Performance on this measure has increased from 74% in 1996 to 90.1% in 2002 (University of Michigan Kidney Epidemiology and Cost Center, 2003).
- In 2002, hemodialysis adequacy was greater for females than males: 81% of males vs. 91% of females had URR of 65 or greater.

Use of Arteriovenous Fistulas for Vascular Access

Vascular access is a way to reach the blood vessels so that harmful urea can be removed from the blood. There are three general types of vascular access devices: fistulas, grafts, or catheters. Arteriovenous vascular fistula access is the preferred type of access for most renal dialysis patients. Vascular access is measured by the percentage of hemodialysis patients who dialyze using an AVF as their primary vascular access type.

Vascular access devices provide routine access to the blood stream for hemodialysis treatment. The National Kidney Foundation, in its Kidney Disease Outcomes Quality Initiative Clinical Practice Guidelines for Vascular Access, recommends an AVF placement goal of 50% in all new patients, with ultimate AVF use rate of 40%.[3]

Figure 2.8. Percent of hemodialysis patients using arteriovenous fistulas for vascular access



Source: CMS ESRD Clinical Performance Measures Project, 2002.

- Among 8,487 adult, in-center hemodialysis patients, 33% were dialyzed through a fistula (ESRD Clinical Performance Measures Project, 2003). This is an increase over 2000 when 27% used fistulas for dialysis.[3]
- Men were nearly twice as likely as women to be dialyzed with AVFs. Use of arteriovenous fistulas for 2002 was 42% for males and 22% for females (Figure 2.8). Males have exceeded the recommended target use rate.

List of Measures: End Stage Renal Disease

Measure	Year	National estimate	National table number	State table number
Management of end stage renal disease:				
Percent of dialysis patients registered on waiting list for transplantation	2001	14.83	1.27a	1.27b
Percent of patients with treated chronic kidney failure who receive a transplant within 3 years of renal failure	1998	19.35	1.28a	1.28b
Percent of hemodialysis patients with URR 65 orgreater	2002	86	1.29a	1.29b
Percent of patients with hematocrit 33 or greater or hemoglobin 11 or greater	2002	79	1.30a	1.30b
Patient survival rate	2001	98	xxx	1.31
Use of arteriovenous fistulas - New hemodialysis patients (age 20 years and over)	2002	33	1.32	xxx

Note: See Tables Appendix for national and State tables listed above.

References

1. U.S. Renal Data System. USRDS 2003 annual data report: atlas of end-stage renal disease in the United States. Minneapolis, MN: United States Renal Data System; 2003. Available at: http://www.usrds.org/atlas.htm. Accessed June 1, 2004.
2. Gilbertson D, Solid C, Xue JL, et al. Projecting the U.S. ESRD population to 2030 [slide presentation]. Minneapolis, MN: United States Renal Data System; 2003. Available at: http://www.usrds.org/2003/pres/html/5U_ASN_projections_files/frame.htm. Accessed June 1, 2004.
3. National Kidney Foundation. K/DOQI clinical practice guidelines for hemodialysis adequacy: update 2000. 2001. Available at: http://www.kidney.org/professionals/kdoqi/guidelines_updates/doqiuphd_i.html#1. Accessed August 9, 2004.

Heart Disease

Importance and Measures

Heart, or cardiovascular, disease is a collection of diseases of the heart and blood vessels that includes heart attack, stroke, and heart failure.

Prevalence and Incidence

- Sixty-four million Americans live with heart disease—almost one-fourth of the U.S. population.[1]

Morbidity and Mortality

- Heart disease, along with other cardiovascular disease and stroke, causes more American deaths among men, women, and most racial and ethnic groups than any other disease.[2, 3] In addition there is a significant State variation in the death rate for both heart disease and stroke.[4]
- Heart failure affects 2 to 3 million Americans. It affects 5% of people over age 75, with 400,000 new cases of heart failure each year.[5] The death rate from heart failure has more than doubled from 1972 to 2002, while the death rate from other cardiovascular diseases dropped by 56% during the same period.[4]
- Half of the deaths from heart attack occur before a person reaches a hospital.[6]

Cost

The cost of heart disease and stroke in the United States is projected to be $368 billion in 2004,[1] including health care expenditures and lost productivity from death and disability.

Measures

The NHQR tracks several quality measures for preventing and treating heart disease, including screening and management of cholesterol and hypertension (high blood pressure) and treatment of heart attack and acute heart failure.[i] Measures highlighted in this section include:

- Awareness, treatment, and control of cholesterol
- Administration of beta-blockers to heart attack patients
- Administration of ACE inhibitors to heart failure patients

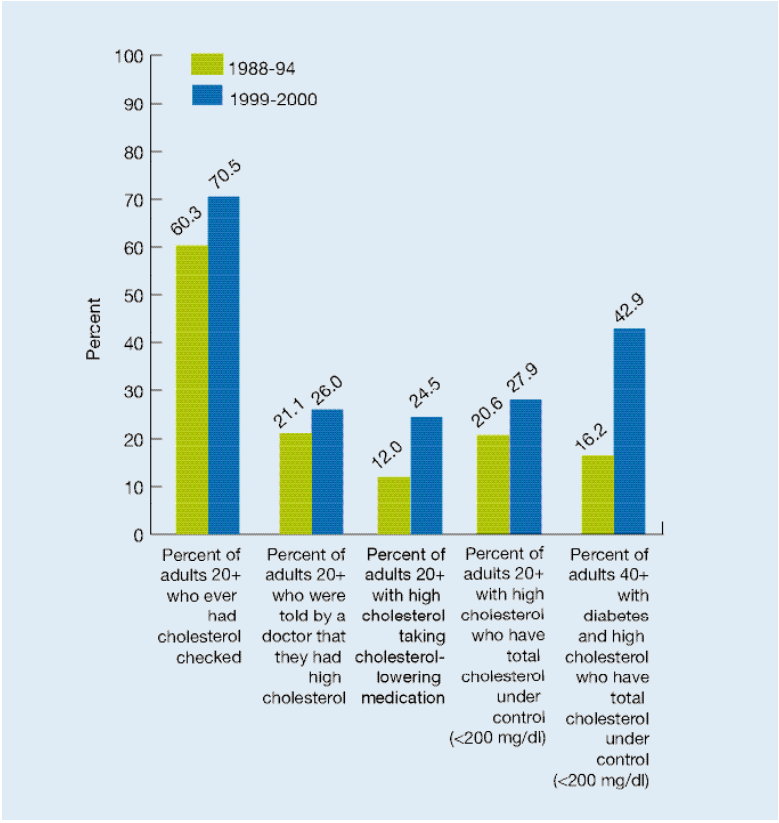
[i] Note that the 2003 NHQR tracks screening for high blood pressure using the National Health Interview Survey (NHIS). Data on this measure from NHIS are not available for the 2004 NHQR. In order to track this important measure, the 2004 NHQR uses NHANES data. Further details on the data sources are contained in the Measure Specifications Appendix.

Findings

Awareness, Treatment, and Control of Cholesterol

High blood cholesterol is an important risk for heart disease. The major culprit is LDL cholesterol which makes up 60%-70% of the total cholesterol. When elevated, cholesterol, a fat-like substance, builds up in the walls of the arteries and causes them to narrow, and slow down or block the flow of needed blood and oxygen to the heart. High cholesterol is one of the major risk factors for heart attacks.

Figure 2.9. Cholesterol screening, awareness and control, 1988-94 and 1999-2000



Source: National Health and Nutrition Examination Survey, 1988-94 and 1999-2000.

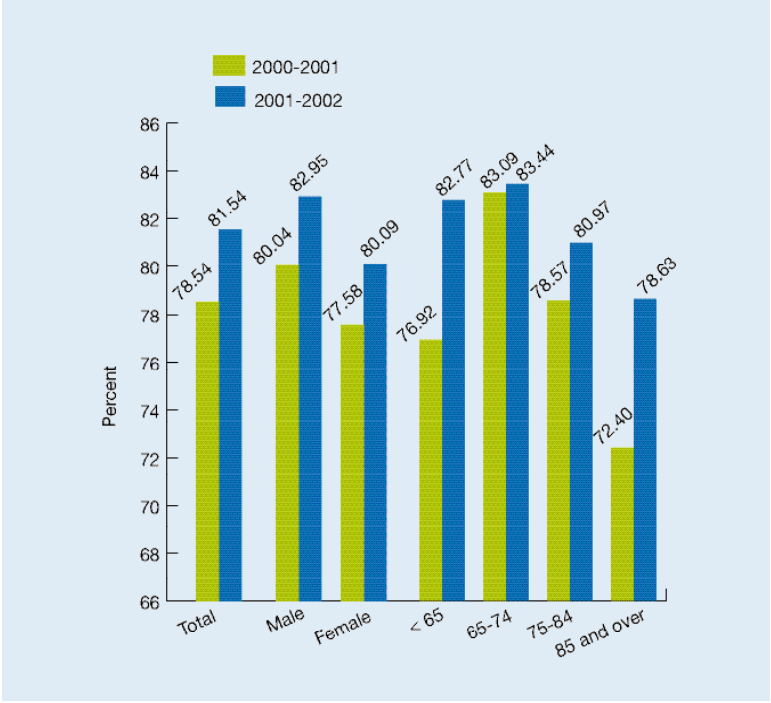
Note: Percentages are age adjusted. Data on cholesterol screening are not available from the National Health Interview Survey for the 2004 NHQR. The above measures from NHANES have been included as supplemental measures to the 2004 NHQR to allow reporting on cholesterol screening.

- Progress has been made in raising awareness of the importance of cholesterol screening and in patients' knowledge of their own cholesterol levels between 1988-94 and 1999-2000.
- In addition, more adults with high cholesterol are taking medication to help control it and more adults with hypertension actually have their cholesterol under control.
- Additional progress has been made in addressing heart disease risk factors for patients with other conditions. For example, the percent of patients with diabetes and high cholesterol who have their cholesterol under control has increased over 2.5 times.
- However, still more than three-fourths of adults with high cholesterol are not taking any medication for their condition and nearly three-quarters of adults with high cholesterol do not have it under control (Figure 2.9).

Administration of Beta-Blockers to Heart Attack Patients

For those people who get to the hospital in time, treatments for heart attack (acute myocardial infarction, or AMI) and heart failure that are based on scientific evidence and knowledge of contraindications are crucial in saving lives and preventing disability.[7, 8] Beta-blockers protect the heart by slowing the heart and helping the heartuse less energy to pump blood.

Figure 2.10. Percent of Medicare AMI patients with a beta-blocker prescribed when leaving hospital, 2000-2001 and 2001-2002



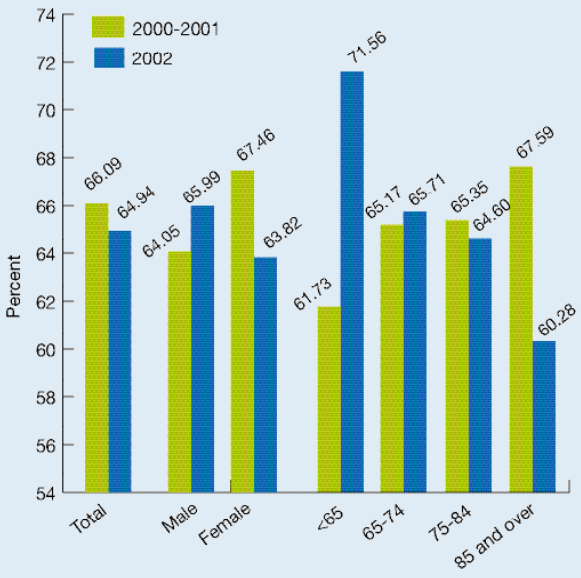
Source: Centers for Medicare & Medicaid Services, Medicare Quality Improvement Organization Program.

- The total percentage of patients receiving beta-blockers at discharge improved from 78.54% in 2000-2001 to 81.54% in 2001-2002 (Figure 2.10).
- The percentages of men and women receiving beta-blockers at discharge improved during 2000-2002, but the lower rates for women persisted.
- The rates for patients under age 65 and age 75 and older improved but the rate for patients ages 65 to 74 remained the same.

Administration of ACE Inhibitors to Heart Failure Patients

Generally, when an individual has clinical heart failure, the left ventricle—the strongest pumping muscle of the heart—is not functioning adequately. A type of medication called an acetyl-cholinesterase (or ACE) inhibitor has been found to improve survival and slow or prevent further loss of the heart's pumping ability.

Figure 2.11. Percent of acute heart failure Medicare patients with LV systolic dysfunction who were prescribed ACE inhibitor when leaving hospital, 2000-2001 and 2002



Source: Centers for Medicare & Medicaid Services, Medicare Quality Improvement Organization Program.

- The percentage of heart failure patients prescribed ACE inhibitors when leaving the hospital decreased over the 2000-2002 period (Figure 2.11).
- The percentage of women leaving the hospital with prescriptions for ACE inhibitors also decreased and the lower rates for women persisted, even as the rates for men improved.
- The percentage of patients prescribed ACE inhibitors decreased for patients age 75 and older during 2000-2002. Patients age 74 and younger have higher percentages than patients in the older age groups, with a marked improvement for patients less than 65 years of age.

List of Measures: Heart Disease

Measure	Year	National estimate	National table number	State table number
Screening for high blood pressure:				
Percent of people age 18 and over who have had blood pressure measured within preceding 2 years and can state whether their blood pressure is normal or high	1998	90.1	1.33	xxx
Screening for high cholesterol:				
Percent of adults 18 and over receiving cholesterol measurement within 5 years	1998	67.0	1.34a	1.34b
Counseling on risk factors:				
Percent of smokers receiving advice to quit smoking	2001	60.9	1.35a	1.35b
Treatment of acute myocardial infarction (AMI):				
Percent of AMI patients administered aspirin within 24 hours of admission	2002	85.34	1.36a	1.36b
Percent of AMI patients with aspirin prescribed at discharge	2002	87.45	1.37a	1.37b
Percent of AMI patients administered beta-blocker within 24 hours of admission	2002	76.26	1.38a	1.38b
Percent of AMI patients with beta-blocker prescribed at discharge	2002	81.54	1.39a	1.39b
Percent of AMI patients with left ventricular systolic dysfunction prescribed ACE inhibitor at discharge	2002	66.82	1.40a	1.40b
Percent of AMI patients given smoking cessation counseling while hospitalized	2002	49.52	1.41a	1.41b
Median time to thrombolysis. Time from arrival to initiation of a thrombolytic agent in patients with ST segment elevation or left bundle branch block (LBBB) on the electrocardiogram (ECG) performed closest to hospital arrival time	2001	47	1.42a	1.42b
Median time to PTCA. Median time from arrival to percutaneous transluminal coronary angioplasty (PTCA) in patients with ST segment elevation or left bundle branch block (LBBB) on the electrocardiogram (ECG) performed closest to hospital arrival time	2001	187.5	1.43a	1.43b
Treatment of acute heart failure:				
Percent of heart failure patients having evaluation of left ventricular ejection fraction	2002	76.04	1.44a	1.44b
Percent of heart failure patients with left ventricular systolic dysfunction prescribed ACE inhibitor at discharge	2002	64.94	1.45a	1.45b
Management of hypertension:				
Percent of people with hypertension who have blood pressure under control	1999-2000	26.8	1.46	xxx

List of Measures: Heart Disease *(continued)*

Measure	Year	National estimate	National table number	State table number
Management of CHF:				
Hospital admissions for congestive heart failure (CHF)	2001	3.5	1.47a	1.47b
Heart disease treatment:				
Pediatric heart surgery mortality rate (number of deaths per 1,000 heart surgeries in patients under age 18 years)	2001	49.766	1.48	xxx
Abdominal aortic aneurysm (AAA) repair mortality rate (number of deaths per 1,000 AAA repairs)	2001	100.687	1.49	xxx
Coronary artery bypass graft (CABG) mortality rate (number of deaths per 1,000 CABG procedures)	2001	32.998	1.50	xxx
Percutaneous transluminal coronary angioplasty (PTCA) mortality rate (number of deaths per 1,000 PTCAs)	2001	14.423	1.51	xxx
Acute myocardial infarction (AMI) mortality rate (number of deaths per 1,000 discharges for AMI)	2001	99.051	1.52	xxx
Congestive heart failure (CHF) mortality rate (number of deaths per 1,000 discharges for CHF)	2001	44.698	1.53	xxx

Note: See Tables Appendix for national and State tables listed above.

Supplemental Measures Related to Heart Disease

Measure	Year	National estimate	National table number	State table number
Percent of adults 20 and over who ever had cholesterol checked	2000	70.5	xxx	xxx
Percent of adults 20 and over who were ever told by a doctor that they had high cholesterol	2000	26.0	xxx	xxx
Percent of adults 20 and over with high cholesterol taking cholesterol-lowering medication	2000	24.5	xxx	xxx
Percent of adults 20 and over with high cholesterol who have total cholesterol under control (<200 mg/dl)	2000	27.9	xxx	xxx
Percent of adults 40 and over with diabetes and high cholesterol who have total cholesterol under control (<200 mg/dl)	2000	42.9	xxx	xxx

Note: Data on cholesterol screening are not available from the National Health Interview Survey for the 2004 NHQR. The above measures from the National Health and Nutrition Examination Survey have been included as supplemental measures to the 2004 NHQR to allow reporting on cholesterol screening.

References

1. Centers for Disease Control and Prevention. Preventing heart disease and stroke: addressing the Nation's leading killers. Atlanta, GA: Centers for Disease Control and Prevention; 2004. Available at: http://www.cdc.gov/nccdphp/aag/pdf/aag_cvh2004.pdf. Accessed August 10, 2004.

2. Office of Minority Health. Eliminate disparities in cardiovascular disease (CVD) [fact sheet]. 2004. Available at: http://www.cdc.gov/omh/AMH/factsheets/cardio.htm. Accessed August 11, 2004.

3. National Center for Chronic Disease Prevention and Health Promotion. Heart disease fact sheet: Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion; 2004. Available at: http://www.cdc.gov/cvh/library/pdfs/fs_heart_disease.pdf. Accessed August 11, 2004.

4. National Heart, Lung, and Blood Institute. Morbidity & mortality: 2004 chart book on cardiovascular, lung, and blood diseases. Data points document. Bethesda, MD: U.S. Department of Health and Human Services, National Institutes of Health, National Heart, Lung, and Blood Institute; 2004. Available at: http://www.nhlbi.nih.gov/resources/docs/04a_chtbk.pdf. Accessed August 11, 2004.

5. National Heart, Lung, and Blood Institute. Facts about heart failure. Bethesda, MD: U.S. Department of Health and Human Services, National Institutes of Health, National Heart, Lung, and Blood Institute; 1997. Report No. 95-923. Available at: http://www.medhelp.org/NIHlib/GF-272.html. Accessed August 11, 2004.

6. National Heart, Lung, and Blood Institute. What is a heart attack? Bethesda, MD: U.S. Department of Health and Human Services, National Institutes of Health, National Heart, Lung, and Blood Institute. Available at: http://www.nhlbi.nih.gov/health/dci/Diseases/HeartAttack/HeartAttack_WhatIs.html. Accessed August 11, 2004.

7. Ryan TJ, Antman EM, Brooks NH, et al. 1999 update: ACC/AHA Guidelines for the Management of Patients With Acute Myocardial Infarction: Executive Summary and Recommendations: A report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines (Committee on Management of Acute Myocardial Infarction). *Circulation* 1999;100(9):1016-30.

8. National Heart, Lung, and Blood Institute. Heart disease and medications. Bethesda, MD: U.S. Department of Health and Human Services, National Institutes of Health, National Heart, Lung, and Blood Institute. Available at: http://www.nhlbi.nih.gov/actintime/hdm/hdm.htm. Accessed August 11, 2004.

HIV and AIDS

Importance and Measures

Human immunodeficiency virus (HIV) causes the progressive deterioration of the body's immune system, which, if untreated, eventually leads to a condition known as acquired immune deficiency syndrome (AIDS). Since 1996, new antiretroviral treatments using combinations of different antiretroviral drugs (known as highly active antiretroviral therapy, or HAART) have been used.

Prevalence and Incidence

- 877,275 adult and adolescent Americans have been diagnosed with AIDS through 2002.[1] Of these, 81.8% are male.[1]
- 9,300 children under the age of 13 have been diagnosed with AIDS.[1]
- The greatest numbers of AIDS cases have occurred in the age groups of 25-34 and 35-44 years, affecting 301,278 and 347,860 Americans, respectively.[1]

Morbidity and Mortality

- After years on the increase, the rate of HIV mortality began a decline in the mid-1990s.
- As of 2002, HIV was the seventh leading cause of death for Americans ages 15-24 and the fifth leading cause of death for Americans ages 25-44.[2]

Cost

- The total cost of treating HIV and AIDS patients in the United States is between $6.7 billion and $7.8 billion annually, or $20,000 to $24,700 per person with a diagnosed infection.[3, 4]
- More than half of adult AIDS patients and more than 90% of children with AIDS rely on Medicaid for coverage.[5] Combined Federal and State Medicaid expenditures for AIDS patients totaled $8.5 billion in fiscal year 2003.[6]

Measures

This report tracks two quality measures for HIV and AIDS:

- HIV-infection deaths per 100,000 population
- New AIDS cases per 100,000 population age 13 and over

The report also presents supplemental data on receipt of highly active anti-retroviral therapy (HAART), prophylaxis for *Pneumocystis pneumonia* (PCP), and prophylaxis for mycobacterium avium complex (MAC)[i] from the HIV Research Network. Providers in this network pool data and collaborate on research to provide policymakers and investigators with timely information about access to and cost, quality, and safety of HIV care as well as to share information and best practices.

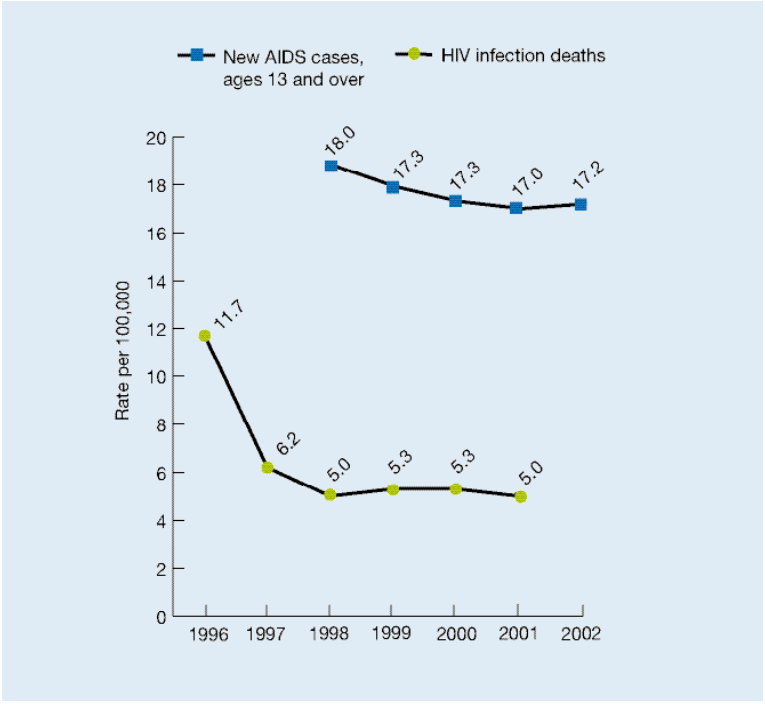
[i] It is recommended that persons with HIV infection receive prophylaxis for PCP when CD4 cells fall below 200 per cubic milliliter, and they should receive prophylaxis for MAC when CD4 cells reach 50.

Findings

HIV-Infection Deaths per 100,000 Population

Although a cure for HIV infection has not been identified, current drug therapies are sometimes able to reduce the amount of virus in an infected individual's body, resulting in better prognosis for an HIV patient today versus 10 years ago.

Figure 2.12. New AIDS cases and HIV infection deaths, per 100,000 population, 1996-2002



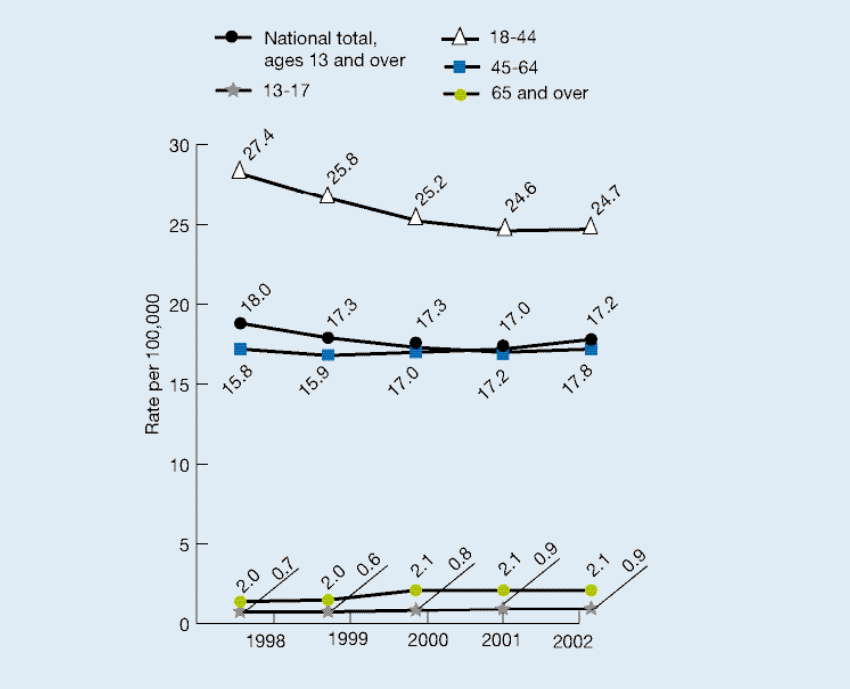
Source: Centers for Disease Control and Prevention, National Center for HIV, STD and TB Prevention, HIV/AIDS Reporting System; Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System - Mortality.

- Mortality rates due to AIDS have declined considerably since 1995. HIV deaths declined more than 57% from 1996 to 1998 (Figure 2.12).
- Although there was a decline in the rate of new AIDS cases between 1998 and 2001, the rate of HIV mortality stayed virtually the same during that time.

New AIDS Cases per 100,000 Population Age 13 and Older

Changes in HIV infection rates are a reflection of behavioral changes in at-risk individuals that may only partly be influenced by the health care system. However, individual and community programs have shown progress in changing care-seeking behaviors, and, if patients get appropriate treatment for HIV infection, the incidence of new cases may be reduced.

Figure 2.13. New AIDS cases by age group, 1998-2002



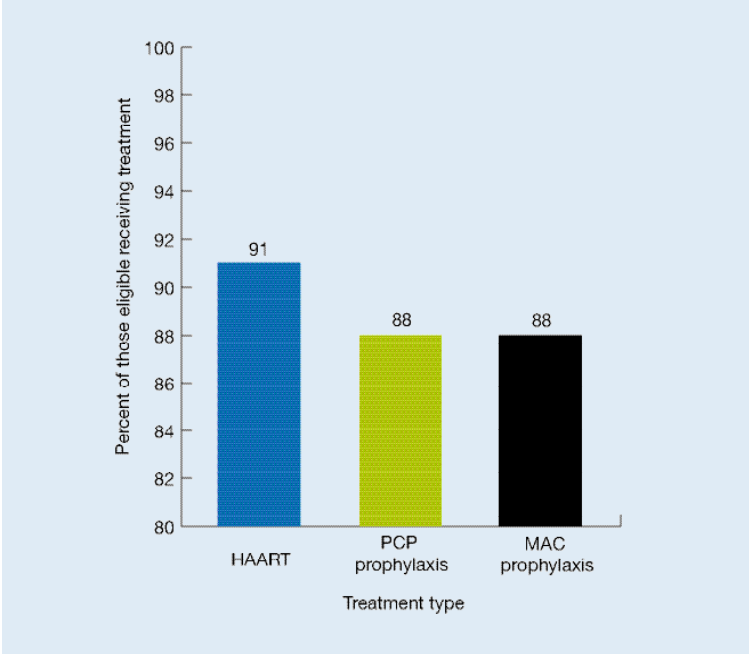
Source: Centers for Disease Control and Prevention, National Center for HIV, STD and TB Prevention, HIV/AIDS Reporting System.

- After declining nearly 5.6% between 1998 and 2001, the rate of new AIDS cases has leveled.
- New AIDS infection rates vary by age, with adults between 18 and 44 being infected at a rate that is 44% higher than the national rate of Americans age 13 and older (Figure 2.13).
- Black, non-Hispanic adults contract AIDS at a rate that is over four times higher (75.4 cases per 100,000) than the national average of 17.2 cases per 100,000 (see Tables Appendix, Table 1.54).

Receipt of HAART, Prophylaxis for PCP, and Prophylaxis for MAC

Receipt of these three treatments by eligible AIDS patients represents widely accepted standards for appropriate HIV care. Current national data do not reflect the extent to which these standards are being met; data from the HIV Research Network are presented below. (The Network is sponsored by AHRQ, the Substance Abuse and Mental Health Services Administration, the Health Resources and Services Administration, the Office of AIDS Research at the National Institutes of Health, and the Office of the Assistant Secretary for Planning and Evaluation, HHS.)

Figure 2.14. Percentage of eligible AIDS patients receiving recommended treatments, 2001



Source: HIV Research Network.

Note: Data from the HIV Research Network are not nationally representative of the level of care received by all Americans living with HIV. Participation in this network is voluntary, and network data only represent patients that are actually receiving care. Furthermore, data shown above are not representative of the HIV Research Network as a whole, because they represent only a subset of network sites that have the best quality data. (For more information on the HIV Research Network, see: http://www.ahrq.gov/data/hivnet.htm.)

- In 2001, 91% of eligible patients (two or more CD4 test results below 350) received HAART (Figure 2.14).
- Of those eligible (2,533 patients with at least two CD4 cell counts below 200), 88% received PCP prophylaxis.
- Of those eligible (754 patients with at least two CD4 cell counts below 50), 88% received MAC prophylaxis.

List of Measures: HIV and AIDS

Measure	Year	National estimate	National table number	State table number
AIDS prevention:				
New AIDS cases per 100,000 population (age 13 and over)	2002	17.2	1.54	xxx
Management of HIV/AIDS:				
HIV-infection deaths per 100,000 population	2001	5.0	1.55a	1.55b

Note: See Tables Appendix for national and State tables listed above.

References

1. Centers for Disease Control and Prevention. Basic statistics [fact sheet]. 2003. Available at: http://www.cdc.gov/hiv/stats.htm. Accessed May 25, 2004.
2. Kochanek KD, Smith BL. Deaths: preliminary data for 2002. *Natl Vital Stat Rep* 2004;52(13):1-47.
3. Hellinger FJ, Fleishman JA. Estimating the national cost of treating people with HIV disease: patient, payer, and provider data. *J Acquir Immune Defic Syndr* 2000;24(2):182-8.
4. Bozzette SA, Joyce G, McCaffrey DF, et al. Expenditures for the care of HIV-infected patients in the era of highly active antiretroviral therapy. *N Engl J Med* 2001;344(11):817-23.
5. AIDS Action leads charge to save Medicaid safety net. *AIDS Action Update* 1996;9(1):5.
6. Centers for Medicare & Medicaid Services. Medicaid and acquired immune deficiency syndrome (AIDS) [fact sheet]. Baltimore, MD: Center for Medicare & Medicaid Services; 2004. Available at: http://www.cms.hhs.gov/hiv/hivfs.asp. Accessed July 21, 2004.

Maternal and Child Health

Importance and Measures

In 2002, there were over 4 million babies born in the United States with an average life expectancy of 77.4 years.[1, 2] In 2000, children under age 18 comprised 26% of the U.S. population—72.3 million people.[3]

Maternal Morbidity and Mortality

- During pregnancy and delivery, women are at risk for high blood pressure, gestational diabetes, and other disorders.
- Maternal mortality (death during delivery or soon afterward) is rare in the United States. In 2001, there were only 399 reported cases of maternal mortality.[4]

Child Morbidity and Mortality

- Infants (children younger than 1 year of age) had a higher death rate than any other age group under age 55.
- Accidents were the leading cause of death for children and youth ages 1-24; leading causes of death for young people ages 15-24 also included homicide and suicide.[4]
- In 2001, from 12% to 19.6% of children were identified as having a special health care need—a chronic condition with a functional limitation or other consequence.[5]
- Among the most highly prevalent chronic conditions of childhood in 2002 were asthma (12% of children), respiratory allergies (12%), learning disabilities (8% of children ages 3-17), and attention-deficit/hyperactivity disorder (7% of children 3 to 17).[6]
- Although not in itself a disease, overweight, if unchecked, can lead to other diseases (e.g., diabetes, cardiovascular disease) during childhood and in adulthood. Overweight among children has increased over time. In 2000, 15.3% of children ages 6-11 were overweight, compared to 11% in 1988-94.[7]

Cost

- Children ages 0-17 accounted for about 10% of total national health care expenditures in 2001, or about $73.4 billion.
- Among all children with expenditures, children with special health care needs (CSHCN) account for a disproportionate percentage of health care expenditures.[8, 9]

Measures

The NHQR tracks several measures related to maternal and child health care throughout the report. This section highlights measures in three areas:

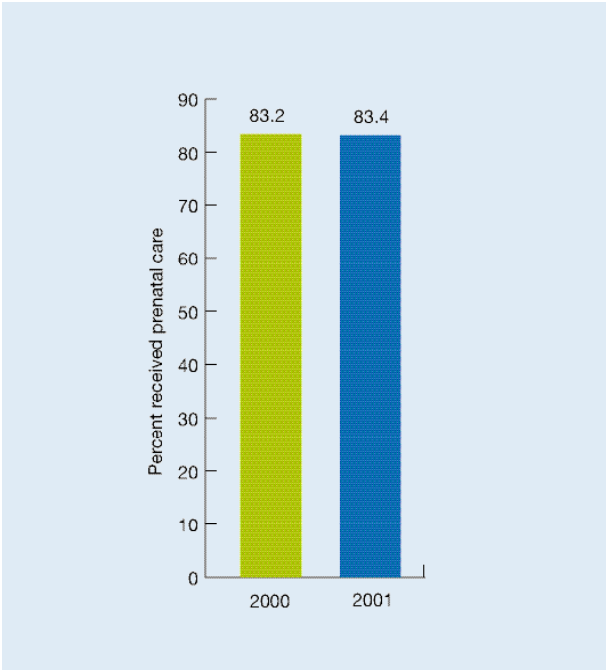
- Maternity care, including prenatal care and obstetric trauma
- Clinical preventive services to prevent overweight in children
- Experiences of care for children with and without special health care needs

Findings

Maternity Care

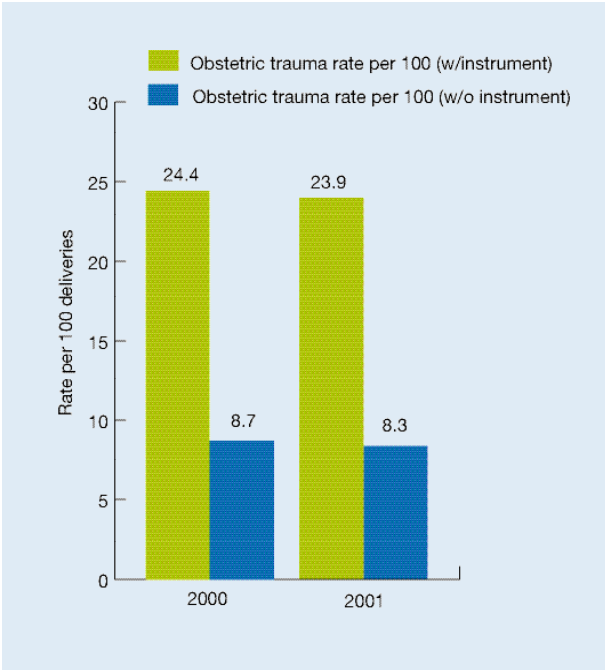
Prenatal care is a preventive service intended to identify and manage risk factors in pregnant women and their unborn children in order to improve the chances of a healthy pregnancy and delivery. Prenatal care is recommended during the first trimester and throughout pregnancy. Obstetric trauma is a Patient Safety Indicator that measures injury—primarily third and fourth degree lacerations—to the mother during delivery. It is tracked for vaginal deliveries with and without use of instruments.

Figure 2.15. Percent of women who delivered live births and who received prenatal care in the first trimester of pregnancy, 2000 and 2001



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System-Natality, 2000 and 2001.

Figure 2.16. Obstetric trauma rate per 100 vaginal deliveries, with and without instruments, 2000 and 2001



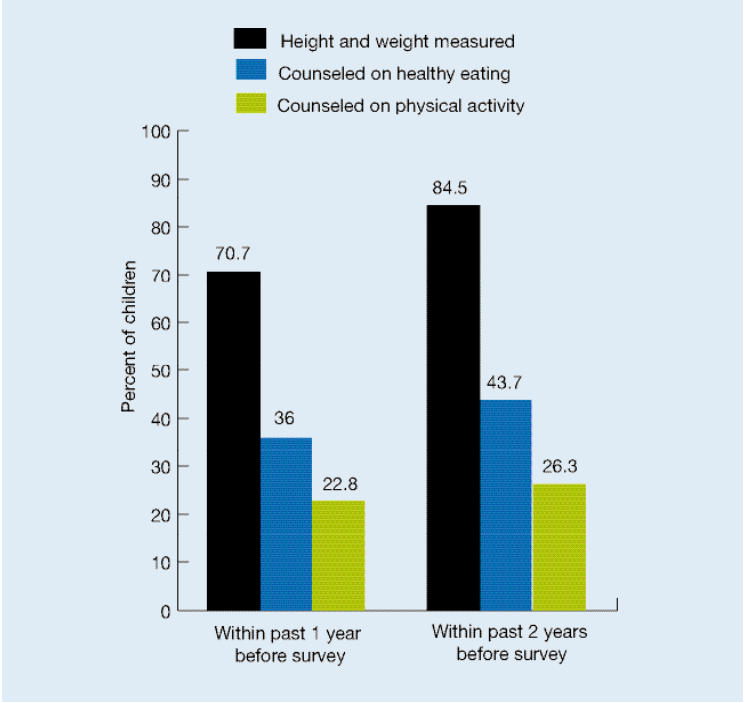
Source: Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project, Nationwide Inpatient Sample, 2000 and 2001.

- In 2001, 83% of pregnant women received early prenatal care, remaining at the same high level as 2000 (Figure 2.15).
- The rates of obstetric trauma remained at about 8% for women delivering vaginally without instrument assistance and 24% for women with instrument-assisted vaginal deliveries (Figure 2.16).

Clinical Preventive Services To Prevent Overweight in Children

In 1996, the U.S. Preventive Services Task Force recommended that clinicians measure children's height and weight and provide counseling about healthy eating and engaging in physical activity.[10]

Figure 2.17. Percent of children who had preventive care related to obesity prevention: height and weight measurement, counseling on physical activity, and counseling on healthy eating by doctors or other health care providers within 1 year and within 2 years of survey, 2001



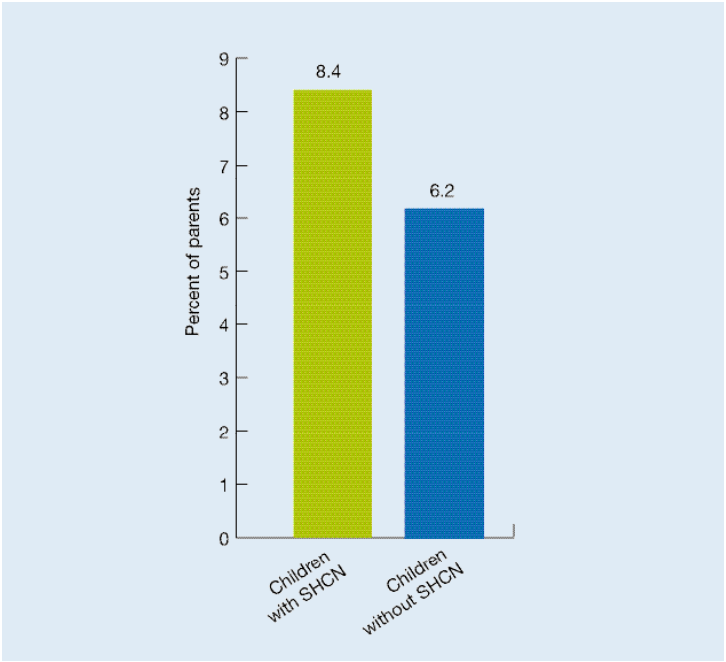
Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2001.

- In 2001, 70.7% of children had both their height and weight measured within the last year by doctors or other health care professionals, according to parents' reports; 84.5% of children had height and weight measured within the last 2 years (Figure 2.17).
- In 2001, 36% of children were counseled on healthy eating within the year before the survey; 43.7% had been counseled on healthy eating within the last 2 years.
- In 2001, 22.8% of children got counseling about the value of physical activity from doctors or other health professionals within the last year; 26.3% got counseling about physical activity within the last 2 years.

Experiences of Care for Children With and Without Special Health Care Needs

High quality pediatric care can be assessed on a number of factors, including parents' perceptions of the provider's ability to listen carefully, explain clearly, show respect, and spend enough time with the patient. These aspects of health care are particularly important for children with special health care needs.

Figure 2.18. Percent of children with and without special health care needs with a doctor visit in past year whose parents reported their child's provider sometimes or never listened carefully, 2001



Source: Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, 2001.

- Respondents for CSHCN more often reported that the child's provider sometimes or never listened carefully to them than those of other children—8.4% versus 6.2%, respectively (Figure 2.18).

List of Measures: Maternal and Child Health

Measure	Year	National estimate	National table number	State table number
Maternity care:				
Percent of pregnant women receiving prenatal care in first trimester	2001	83.4	1.56a	1.56b
Percent of live-born infants with low and very low birthweight (less than 2,500 grams, less than 1,500 grams)	2001 2001	7.7 (<2,500 g) 1.4 (<1,500 g)	1.57a 1.57b	1.57c 1.57d
Infant mortality per 1,000 live births	2001	6.8	1.58a	1.58b
Maternal deaths per 100,000 live births	2001	9.9	1.59a	1.59b
Immunization, childhood:				
Percent of children 19-35 months who received all recommended vaccines	2002	74.8	1.60a	1.60b
Immunization, adolescent:				
Percent of adolescents (age 13-15) reported to have received 3 or more doses of hepatitis B vaccine	2001	74.4	1.61	xxx
Percent of adolescents (age 13-15) reported to have received 2 or more doses of MMR vaccine	2001	93.0	1.62	xxx
Percent of adolescents (age 13-15) reported to have received 1 or more doses of tetanus-diphtheria booster	2001	92.0	1.63	xxx
Percent of adolescents (age 13-15) reported to have received 3 or more doses of varicella vaccine	2001	56.6	1.64	xxx
Childhood dental care:				
Percent of persons over 2 years who report dental visit in last year	2001	47.6	1.65	xxx
Treatment of pediatric gastroenteritis:				
Hospital admissions for pediatric gastroenteritis per 100,000 population less than 18 years of age	2001	106.289	1.66a	1.66b
Childhood preventive care:				
Percent of children under age 18 who had their height and weight measured by a doctor or other health provider	2001	90.3 (both) 70.7 (within 1 year) 84.5 (within 2 years)	1.67	xxx
Percent of children age 2-17 for whom a doctor or other health provider gave advice about amount and kind of physical activity	2001	28.0 (ever) 22.8 (within 1 year) 26.3 (within 2 years)	1.68	xxx
Percent of children age 2-17 for whom a doctor or other health provider gave advice about eating healthy	2001	47.7 (ever) 36.0 (within 1 year) 43.7 (within 2 years)	1.69	xxx
Percent of children age 3-6 whose vision was checked by a doctor or other health provider	2001	59.3	1.70	xxx
Percent of children under age 18 for whom a doctor or other health provider gave advice about how smoking in the house can be harmful	2001	42.8 (ever) 30.7 (within 1 year) 37.2 (within 2 years)	1.71	xxx

List of Measures: Maternal and Child Health *(continued)*

Measure	Year	National estimate	National table number	State table number
Percent of children under age 18 for whom a doctor or other health provider gave advice about using car safety restraints	2001	36.1 (ever) 26.4 (within 1 year) 30.7 (within 2 years)	1.72	xxx
Percent of children age 2-17 for whom a doctor or other health provider gave advice about using a helmet when riding a bicycle or motorcycle	2001	32.1 (ever) 23.6 (within 1 year) 28.1 (within 2 years)	1.73	xxx

Note: See Tables Appendix for national and State tables listed above.

Other Measures Related to Maternal and Child Health in the NHQR Measure Set

Measure	Year	National estimate	National table number	State table number
Cancer:				
Cancer deaths per 100,000 persons per year for all cancers (ages 0-17)	2001	2.6	1.8a	1.8b
End stage renal disease:				
Percent of dialysis patients registered on waiting list for transplantation (ages 0-17)	2001	34.41	1.27a	xxx
Percent of patients with treated chronic kidney failure who receive a transplant within 3 years of renal failure (ages 0-17)	1998	70.95	1.28a	xxx
HIV and AIDS:				
New AIDS cases per 100,000 population (ages 13-17)	2002	0.9	1.54	xxx
HIV-infection deaths per 100,000 population (ages 0-17)	2001	0.1	1.55a	xxx
Mental health:				
Deaths due to suicide per 100,000 population (ages 0-17)	2001	1.4	1.77a	1.77b
Respiratory diseases:				
Rate antibiotic prescribed at visit with diagnosis of common cold by selected characteristics, United States, per 10,000 visits (ages 0-17)	2000-01	333.79	1.91	xxx
Hospital admissions for pediatric asthma (under age 18)	2001	26.2	1.93a	1.93b
Patient safety:				
Birth trauma to neonate, per 1,000 live births	2001	7.358	2.1	xxx
Deaths per 1,000 admissions in low mortality DRGs (ages 0-17), some exclusions	2001	0.628	2.2	xxx
Failure to rescue or deaths per 1,000 discharges having developed specified complications of care during hospitalization (excluding patients transferred in or out, patients admitted from long-term care facilities, neonates, and patients over 74 years old), (ages 0-17)	2001	136.630	2.3	xxx
Transfusion reactions per 1,000 discharges (excluding neonates) (ages 0-17)	2001	0.007	2.4a	xxx
Transfusion reactions per 100,000 population (excluding neonates) (ages 0-17)	2001	0.035	2.4b	xxx
Foreign body left in body during procedure (excluding neonates) (ages 0-17)	2001	0.058	2.5a	xxx
Foreign body left in body during procedure per 100,000 population (excluding neonates) (ages 0-17)	2001	0.212	2.5b	xxx
Complications of anesthesia per 1,000 surgical discharges (ages 0-17)	2001	0.948	2.8	xxx

Other Measures Related to Maternal and Child Health in the NHQR Measure Set *(continued)*

Measure	Year	National estimate	National table number	State table number
Decubitus ulcers per 1,000 discharges of length 5 or more days (excluding obstetrical patients and others) (ages 0-17)	2001	4.977	2.9	xxx
Iatrogenic pneumothorax per 1,000 discharges (excluding neonates and obstetric admissions, others) (ages 0-17)	2001	0.465	2.10a	xxx
Iatrogenic pneumothorax per 100,000 population (excluding neonates and obstetric admissions, others) (0-17)	2001	0.746	2.10b	xxx
Selected infections due to medical care per 1,000 discharges (ages 0-17)	2001	2.171	2.11a	xxx
Selected infections due to medical care per 100,000 population (ages 0-17)	2001	8.154	2.11b	xxx
Postoperative hemorrhage or hematoma per 1,000 surgical discharges (excluding obstetric admissions) (ages 0-17)	2001	1.422	2.13	xxx
Postoperative physiologic and metabolic derangements per 1,000 elective surgical discharges (excluding obstetric admissions, others) (ages 0-17)	2001	0.800	2.14	xxx
Postoperative respiratory failure per 1,000 elective surgical discharges (excluding obstetric conditions, others) (ages 0-17)	2001	1.753	2.15	xxx
Postoperative pulmonary embolism or deep vein thrombosis per 1,000 surgical discharges (excluding obstetrics, others) (ages 0-17)	2001	0.155	2.16	xxx
Postoperative sepsis per 1,000 elective surgery discharges of longer than 3 days (excluding obstetric conditions, others) (ages 0-17)	2001	3.227	2.17	xxx
Accidental puncture or laceration during procedures per 1,000 discharges (excluding obstetric admissions) (ages 0-17)	2001	2.107	2.18a	xxx
Accidental puncture or laceration during procedures per 100,000 population (excluding obstetric admissions) (ages 0-17)	2001	2.998	2.18b	xxx
Reclosure of postoperative disruption of abdominal wall (postoperative abdominal wound dehiscence) per 1,000 abdominopelvic surgery discharges (excluding obstetric conditions) (ages 0-17)	2001	1.534	2.19a	xxx
Reclosure of postoperative disruption of abdominal wall (postoperative abdominal wound dehiscence) per 100,000 population (excluding obstetrics) (ages 0-17)	2001	0.202	2.19b	xxx
Obstetric trauma – vaginal with instrument	2001	24.0	2.20	xxx
Obstetric trauma – vaginal without instrument	2001	8.26	2.21	xxx
Obstetric trauma - cesarean delivery	2001	5.715	2.22	xxx

Other Measures Related to Maternal and Child Health in the NHQR Measure Set *(continued)*

Measure	Year	National estimate	National table number	State table number
Ventilator-associated pneumonia in infants weighing ≤ 1,000 grams at birth in intensive care, per 1,000 days of use	2002	3.1	2.25	xxx
Central line-associated bloodstream infection in infants weighing 1,000 grams or less at birth in intensive care, per 1,000 days of use	2001	10.7	2.7	xxx
Timeliness:				
Percent of persons who report that they have a usual source of medical care, by place of care (ages 0-17)	2001	94.2	3.1a	xxx
Among children under age 18 who had appointments reported for routine health care in the last 12 months, percent distribution of how often they got an appointment as soon as wanted	2001	69.7 (ages 0-5 always) 66.2 (ages 6-17 always)	3.4a	3.4b 3.4c
Among children under age 18 who had appointments reported for an illness or injury in the last 12 months, percent distribution of how often they got an appointment as soon as wanted	2001 2001	77.9 (ages 0-5 always) 76.3 (ages 6-17 always)	3.6a	3.6b 3.6c
ED visits: Percent ED visits where patient was admitted to the hospital or transferred to other facility whose ED visit was greater than or equal to 6 hours (ages 0-17)	2000-01	19.374	3.7	xxx
ED visits: Percent of patients who left without being seen	2000-01	1.745	3.8	xxx
Patient centeredness:				
Among children under age 18 who had a doctor's office or clinic visit reported in the last 12 months, percent distribution of how often their health care providers listened carefully to their parents	2001	8.4% (sometimes/ never -CSHCN) 6.2% (sometimes/ never-Children w/o SHCN)	4.2a	xxx
Among children under age 18 who had a doctor's office or clinic visit in the last 12 months, percent distribution of how often their health providers spent enough time with them and their parents	2001	67.9 (ages 0-5 always) 67.6 (ages 6-17 always)	4.8a	xxx
Overall measures:				
Among children under age 18 who had a doctor's office or clinic visit in the last 12 months, percent of parents giving a best rating for health care received	2001	87.0 (ages 0-5) 71.0 (ages 6-17)	5.2a	5.2b

Note: See Tables Appendix for national and State tables listed above.

References

1. Martin JA, Hamilton BE, Sutton PD, et al. Births: final data for 2002. *Natl Vital Stat Rep* 2003;52(10):1-113.

2. Kochanek KD, Smith BL. Deaths: preliminary data for 2002. *Natl Vital Stat Rep* 2004;52(13):1-47.

3. Meyer J. Age: 2000. Census 2000 brief. Washington, DC: U.S. Department of Commerce, Economics and Statistics Administration, U.S. Census Bureau; 2001. Report No.: C2KBR/01-12. Available at: http://www.census.gov/prod/2001pubs/c2kbr01-12.pdf. Accessed June 4, 2004.

4. Arias E, Anderson RN, Kung HC, et al. Deaths: final data for 2001. *Natl Vital Stat Rep* 2003;52(3):1-115.

5. Blumberg SJ. Comparing States using survey data on health care services for children with special health care needs (CSHCN) [slide presentation]. In: Ninth Annual Maternal and Child Health Epidemiology Conference; 2003 December 12; Tempe, AZ; 2003. Available at: http://www.cdc.gov/nchs/data/slaits/Comparing_States_CSHCNA.pdf. Accessed July 27, 2004.

6. Dey A, Schiller J, Tai D. Summary health statistics for U.S. children: National Health Interview Survey, 2002. *Vital Health Stat* 2004;10(221). Available at: http://www.cdc.gov/nchs/data/series/sr_10/sr10_221.pdf. Accessed June 4, 2004.

7. National Center for Health Statistics. Prevalence of overweight among children and adolescents: United States, 1999-2000. Hyattsville, MD: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics; 2004. Available at: http://www.cdc.gov/nchs/products/pubs/pubd/hestats/overwght99.htm. Accessed July 27, 2004.

8. Neff JM, Sharp VL, Muldoon J, et al. Profile of medical charges for children by health status group and severity level in a Washington State Health Plan. *Health Serv Res* 2004;39(1):73-89.

9. Bethell CD, Read D, Stein RE, et al. Identifying children with special health care needs: development and evaluation of a short screening instrument. *Ambul Pediatr* 2002;2(1):38-48.

10. U.S. Preventive Services Task Force. Guide to clinical preventive services. 2nd edition. Rockville, MD: U.S. Department of Health and Human Services, Agency for Healthcare Research and Quality; 1996. Available at: http://www.ahrq.gov/clinic/cpsix.htm. Accessed July 27, 2004.

Mental Health

Importance and Measures

Prevalence and Incidence

- Depression affects about 9.5% of Americans—19 million people—in a given year.[1]

Morbidity and Mortality

- About 60% of people who commit suicide have had a mood disorder, including major depression, bipolar disorder, or dysthymia.[2]
- The World Health Organization estimates that depression will be the second leading cause of disability worldwide by 2020.[3]

Cost

- The financial costs of depression among the working population are estimated at over $43 billion per year.[4]

Measures

The NHQR tracks four measures for clinical depression, including two measures of appropriate antidepressant medication treatment, one measure of practitioner contact,[i] and the national suicide rate. This section highlights both measures of medication treatment quality for adults:

- Receipt of antidepressant medication treatment during acute phase (i.e., first 3 months following initial diagnosis)
- Receipt of antidepressant medication treatment through continuation phase (6 months) of treatment

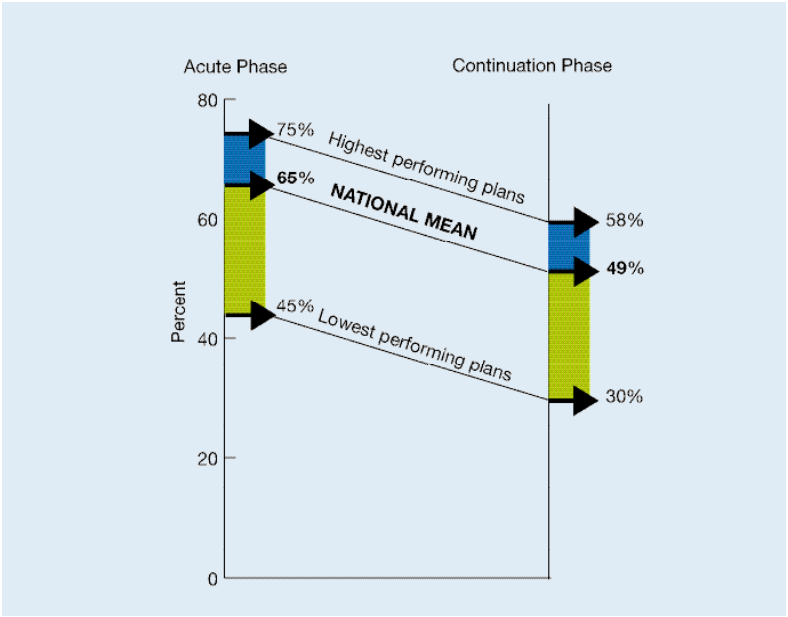
[i] This report does not focus on optimal practitioner contacts for medication management because the measure specifications are changing this year.

Findings

While there are major efforts developing nationally in developing comprehensive measures of mental health care quality, there remains some disagreement about the optimal measures of quality of care for mental health services. There is agreement about which antidepressant medications and psychological therapies are effective in treating depression and how medications should be prescribed and used for maximum benefit.

Appropriate Antidepressant Medication Treatment

Figure 2.19. Percent of adults diagnosed with depression who are prescribed antidepressant medication and remained on medication by treatment phase



Source: National Committee for Quality Assurance, 2003. The sample includes only participating managed care plans and may not be representive of all plans nationally.

Note: The rate is the weighted average of commercial, Medicare, and Medicaid managed care plans. The lowest performing plans are those in the first quartile of the sample; the highest performing plans are those in the fourth quartile. The mean rate of the plans in the quartile is reported in chart.

- Almost two-thirds of adults newly diagnosed with depression and treated with antidepressants remain on medication during the initial, acute phase of treatment.
- Less than half of adults newly diagnosed with depression and on antidepressants remain on the medication through the continuation phase, as recommended by experts.
- The mean rate for the continuation phase measure among the lowest performing plans is almost half that of the highest performing plans, 30% vs. 58% (Figure 2.19).

List of Measures: Mental Health

Measure	Year	National estimate	National table number	State table number
Treatment of depression:				
Percent of adults diagnosed with a new episode of depression who had optimal practitioner contacts for medication management during the acute treatment phase	2003	20.60	1.74	xxx
Percent of adults diagnosed with a new episode of depression and initiated on an antidepressant drug who received a continuous trial of medication treatment during the acute treatment phase	2003	65.10	1.75	xxx
Percent of adults diagnosed with a new episode of depression and initiated on an antidepressant drug who remained on an antidepressant medication through the continuation phase of treatment	2003	48.80	1.76	xxx
Deaths due to suicide per 100,000 population	2001	10.7	1.77a	1.77b

Note: See Tables Appendix for national and State tables listed above.

References

1.National Instute of Mental Health. Depression [fact sheet]. Bethesda, MD: U.S. Department of Health and Human Services, National Institutes of Health, National Institute of Mental Health; 2000. Report No. 00-3561. Available at: http://www.nimh.nih.gov/publicat/depression.cfm. Accessed June 4, 2004.

2.National Instute of Mental Health. Frequently asked questions about suicide; 1999. Available at: http://www.nimh.nih.gov/suicideprevention/suicidefaq.cfm. Accessed July 20, 2004.

3.World Health Organization. Depression [fact sheet]; 2004. Available at: http://www.who.int/mental_health/management/depression/definition/en/print.html. Accessed June 4, 2004.

4.Pignone MP, Gaynes BN, Rushton JL, et al. Screening for depression in adults: a summary of the evidence for the U.S. Preventive Services Task Force. *Ann Intern Med* 2002;136(10):765-76.

Respiratory Diseases

Importance and Measures

Respiratory diseases comprise a broad category of illnesses, including influenza, pneumonia, asthma, upper respiratory infection, and tuberculosis.

Prevalence and Incidence

- Upper respiratory infections affect over 62 million people annually.[1]
- Approximately 5 million cases of pneumonia occur annually.[2]
- Between 22 million and 32 million Americans have asthma, and a disproportionate number of these are children.[3, 4]

Morbidity and Mortality

- Influenza and pneumonia together are the seventh leading cause of death in the Nation.[5]
- Pneumonia results in nearly 55 million days of restricted activity, 31.5 million bed days, and 1.3 million hospitalizations each year.[2]
- As many as one-third of children with private insurance and two-fifths of children covered by Medicaid do not receive a prescription to control their asthma.[6]

Cost

- Inpatient treatment for pneumonia alone amounts to over $7.5 billion annually.[7]
- Upper respiratory infections cost approximately $40 billion in direct health care costs and lost productivity.[8]
- Indirect and direct costs for asthma total between $11.3 billion and $14 billion, with direct costs of hospital care, physician services, and prescriptions as much as $9.4 billion.[9, 10]

Measures

This report tracks several quality measures for respiratory diseases, including management of upper respiratory tract infection and tuberculosis and immunizations for pneumonia. Two areas of measures are highlighted in this section:

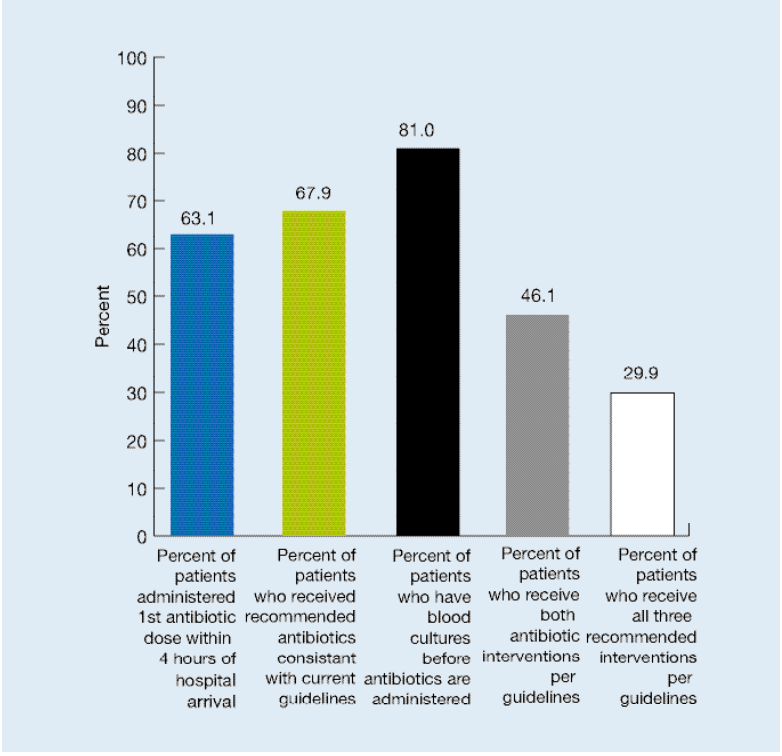
- Receipt of recommended interventions for pneumonia by the elderly
- Hospital admissions for pediatric asthma

Findings

Receipt of Recommended Interventions for Pneumonia by the Elderly

The Centers for Medicare & Medicaid Services (CMS) tracks a set of measures for quality of pneumonia care for hospitalized adults age 65 and older through the CMS Quality Improvement Organization (QIO) Program.

Figure 2.20. Percent of pneumonia patients 65 and older who had blood cultures before antibiotics, who received their initial dose of antibiotics within 4 hours of admission, and who received antibiotics consistent with current recommendations, 2002



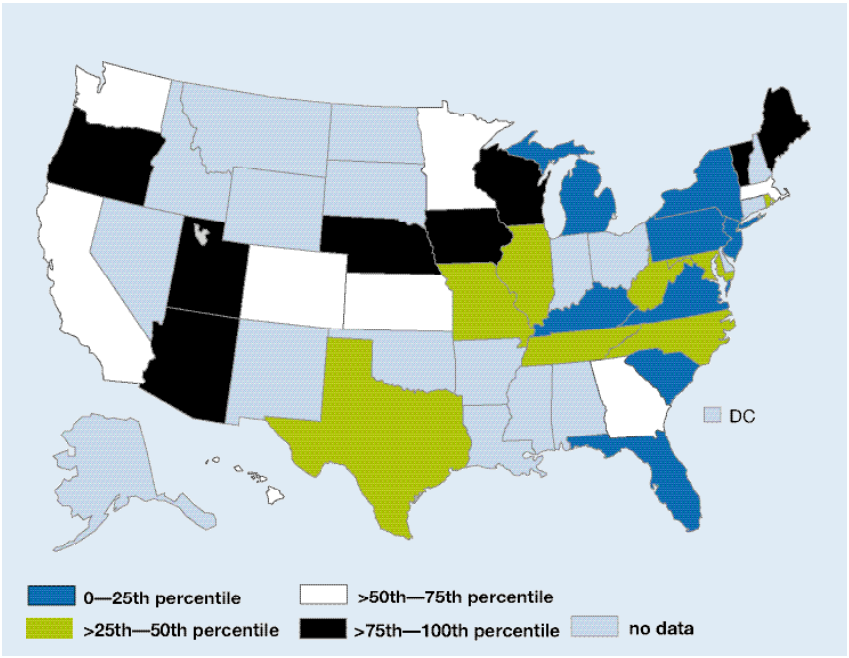
Source: Centers for Medicare & Medicaid Services, Quality Improvement Organization Program, 2002.

- The percentage of pneumonia discharges for patients 65 and older who had blood cultures before antibiotics was 81%; the percentage who received their initial dose of antibiotics within 4 hours of admission was 63.1%; and the percentage who received antibiotics consistent with current recommendations was 67.9% (Figure 2.20).
- The percentage of pneumonia discharges for patients age 65 and older who received all of the above interventions was 29.9%.

Hospital Admissions for Pediatric Asthma

Asthma can be effectively controlled over the long term with recommended medications. Preventing hospital admissions for asthma is one measure of successful management of asthma at the population level.

Figure 2.21. State variation in pediatric hospital admissions for asthma per 100,000 population, 2001



Source: Agency for Healthcare Research and Quality, HCUP State Inpatient Databases, 2001.

Note: Not all States are included. Values for quartiles are: 0-25th percentile= 221.4-315.3 admissions/100,00 population; >25th-50th percentile=187.3-220.9; >50th-75th percentile=125.6-176.6; >75th-100th percentile=66.3-120.6.

- Child asthma admission rates vary from 98 admissions per 100,000 population for the best performing quartile of States to 261.5 admissions per 100,000 population for the lowest performing quartile of States—a difference of 167% (Figure 2.21).
- While prevalence rates vary by age, admission rates nationally for children are more than twice those for adults—26.2 admissions for children per 100,000 population in 2001 vs. 12.5 admissions for adults per 100,000 population (National Hospital Discharge Survey, 2001; see Tables Appendix, Tables 1.93a, 1.94a).
- According to health plan performance data, on average, 67.9% of patients get proper medication for long-term control of asthma[i] (National Committee for Quality Assurance, 2002; see Tables Appendix, Table 1.92).

[i] Percentage refers to patients commercially insured. The percentage of Medicaid patients for this same measure is 61.6%.

List of Measures: Respiratory Diseases

Measure	Year	National estimate	National table number	State table number
Immunization, influenza:				
Percent of high risk persons (e.g. COPD) ages 18-64 who received an influenza vaccination in the past 12 months	2001	25.1	1.78a	1.78b
Percent of persons age 65 and over who received an influenza vaccination in the past 12 months	2001	63.1	1.79a	1.79b
Percent of institutionalized adults (persons in long-termcare or nursing homes) who received influenza vaccination in past 12 months	1999	57.3	1.80	xxx
Hospital admissions for immunization-preventable influenza per 100,000 population	2001	13.357	1.81a	1.81b
Immunization, pneumonia:				
Percent of high risk persons (e.g. COPD) ages 18-64 who ever received pneumococcal vaccination	2001	14.2	1.82a	1.82b
Percent of persons age 65 and over who ever received pneumococcal vaccination	2001	54.0	1.83a	1.83b
Percent of institutionalized adults (persons in long-termcare or nursing homes) who ever received pneumococcal vaccination	1999	32.7	1.84	xxx
Treatment of pneumonia:				
Percent of patients with pneumonia who have blood cultures collected before antibiotics are administered	2001-2002	80.95	1.85a	1.85b
Percent of patients with pneumonia who receive the initial antibiotic dose within 4 hours of hospital arrival	2002	63.09	1.86a	1.86b
Percent of patients with pneumonia who receive the initial antibiotic consistent with current recommendations	2002	67.95	1.87a	1.87b
Percent of patients with pneumonia who receive influenza screening or vaccination	2002	27.67	1.88a	1.88b
Percent of patients with pneumonia who receive pneumococcal screening or vaccination	2002	26.13	1.89a	1.89b
Pneumonia mortality rate (number of deaths per 100 discharges for pneumonia)	2001	84.70	1.90	xxx
Treatment of URI:				
Visit rates where antibiotics were prescribed for a diagnosis of common cold per 10,000 population	2000-2001	184.28	1.91	xxx

List of Measures: Respiratory Diseases *(continued)*

Measure	Year	National estimate	National table number	State table number
Management of asthma:				
Percent of people with persistent asthma who are prescribed medications acceptable as primary therapy for long-term control of asthma (inhaled corticosteroids)	2003	69.7	1.92	xxx
Hospital admissions for pediatric asthma per 100,000 population under age 18	2001	26.2	1.93a	1.93b
Hospital admissions for adult asthma per 100,000 population ages 18-64	2001	12.5	1.94a	1.94b
Hospital admissions for adult asthma per 100,000 population ages 65+	2001	170.640	1.95a	1.95b
Treatment of TB:				
Percent of TB patients that complete a curative course of TB treatment within 12 months of initiation of treatment	2000	80.2	1.96	xxx

Note: See Tables Appendix for national and State tables listed above.

References

1. The National Institute of Allergies and Infectious Diseases. Health matters: the common cold [fact sheet]. Bethesda, MD: U.S. Department of Health and Human Services, National Institutes of Health, National Institute of Allergies and Infectious Diseases; 2001. Available at: http://www.niaid.nih.gov/factsheets/cold.htm. Accessed June 14, 2004.
2. American Lung Association. Pneumonia fact sheet. 2003. Available at: http://www.lungusa.org/ site/pp.asp?c=dvLUK9O0E&b=35692. Accessed June 14, 2004.
3. Lucas J, Schiller J, Benson V. Summary health statistics for U.S. adults: National Health Interview Survey, 2001. *Vital Health Stat* 2004;10(218). Available at: http://www.cdc.gov/nchs/data/series/sr_10/sr10_218.pdf. Accessed July 23, 2004.
4. American Lung Association. Trends in asthma morbidity and mortality. 2003. Available at: http://www.lungusa.org/ atf/cf/%7B7A8D42C2-FCCA-4604-8ADE-7F5D5E762256%7D/ASTHMA_TRENDS_IN_MORBIDITY_MORALITY2003.PDF. Accessed June 14, 2004.
5. Kochanek KD, Smith BL. Deaths: preliminary data for 2002. *Natl Vital Stat Rep* 2004;52(13):1-47.
6. Leatherman S, McCarthy D. Quality of health care for children and adolescents: a chartbook. New York, NY: The Commonwealth Fund; 2004. Available at: http://www.cmwf.org/usr_doc/leatherman_pedchartbook_700.pdf. Accessed June 14, 2004.
7. Niederman MS, McCombs JS, Unger AN, et al. The cost of treating community-acquired pneumonia. *Clin Ther* 1998;20(4):820-37.
8. Fendrick AM, Monto AS, Nightengale B, et al. The economic burden of non-influenza-related viral respiratory tract infection in the United States. *Arch Intern Med* 2003;163(4):487-94. Available at: http://archinte.ama-assn.org/cgi/content/full/163/4/487. Accessed July 20, 2004.
9. National Heart, Lung, and Blood Institute. Morbidity & mortality: 2002 chart book on cardiovascular, lung, and blood diseases. Bethesda, MD: U.S. Department of Health and Human Services, National Institutes of Health, National Heart, Lung, and Blood Institute; 2002. Available at: http://www.nhlbi.nih.gov/resources/docs/02_chtbk.pdf. Accessed June 15, 2004.
10. National Heart, Lung, and Blood Institute. Data fact sheet: asthma statistics. Bethesda, MD: U.S. Department of Health and Human Services, National Institutes of Health, National Heart, Lung, and Blood Institute; 1999. Available at: http://www.nhlbi.nih.gov/health/prof/lung/asthma/asthstat.pdf. Accessed June 15, 2004.

Nursing Home and Home Health Care

Importance and Measures

Demographics

- According to the latest available national data, there were 1.6 million current nursing home residents in 1999 and 2.5 million discharges from nursing homes in 1998-99.[1]
- There were more than 1.4 million current home health patients and 7.8 million discharges from home health agencies in 2000.[2]
- Assuring quality for this frail and expanding population has been a significant challenge and longstanding concern.[3-6]

Cost

- Nursing home and home health services accounted for at least $139.3 billion, or 9%, of national health expenditures in 2002.[7]

Measures

- **Nursing home care**—Based on the recommendations of the National Quality Forum consensus panel, nine new nursing home measures were selected for the 2004 NHQR; five measures were retained from the 2003 NHQR. There are separate measures for the two major populations that reside in nursing homes: one set for postacute care residents and one set for chronic care residents.[i] Some measures are common to both populations. This section highlights the following:
  - Prevalence of pain among postacute and chronic care residents
  - Use of physical restraints among chronic care residents
  - Presence of pressure ulcers among postacute and chronic care residents
- **Home health care**—Performance measures for home health show the portion of patients whose conditions improved or declined during the course of their care from a certified home health agency (the measures are the same as in the 2003 NHQR). Based on national data[ii] for the measures reported here, statistically significant improvement or decline did occur between 2001 and 2003. Quality of home health care is highlighted in this section in two general areas:
  - Improvement in getting around
  - Acute-care hospitalization of home health patients

[i] Data are from the CMS Minimum Data Set (MDS), used by Medicare- and Medicaid-certified nursing homes for all residents, regardless of payer; Medicare Quality Improvement Organization (QIO) data are also presented and show the effect of intensive quality improvement efforts on selected nursing home measures. CMS definitions of postacute and chronic residents are used here. "Postacute" care refers to patients who are admitted to a facility and stay fewer than 30 days. These admissions typically follow an acute-care hospitalization and involve high-intensity rehabilitation or clinically complex care. The postacute quality measures are calculated on any patients with a 14-day MDS assessment (required under the Prospective Payment System) in the last 6 months. "Chronic" care refers to those types of patients who enter a nursing facility typically because they are no longer able to care for themselves at home. These patients (or residents) tend to remain in the nursing facility from several months to several years. The chronic quality measures were calculated on any residents with a full or quarterly MDS in the target quarter. For exact specification see: http://www.cms.hhs.gov/quality/nhqi/QMUserManual200401.pdf

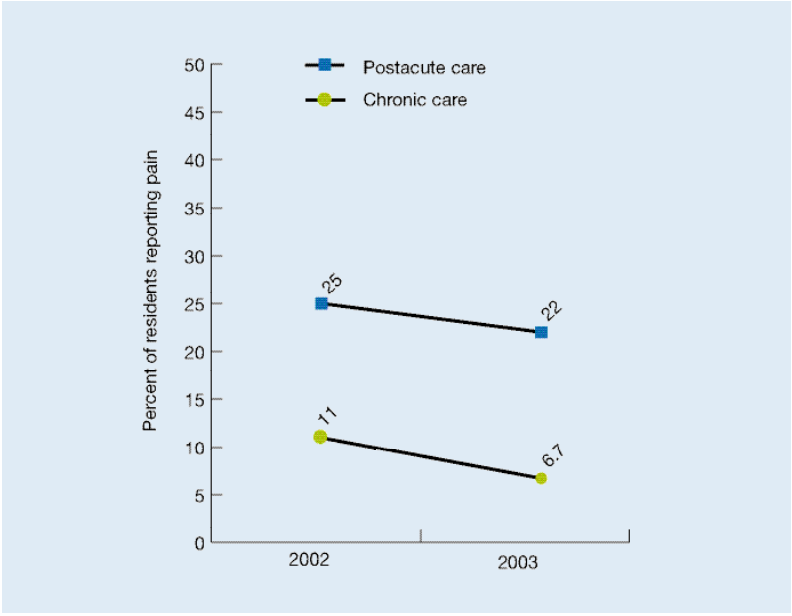
[ii] Data are from the Outcome and Assessment Information Set (OASIS), used by Medicare-certified home health agencies for all adult (non-maternity) home health patients receiving skilled services during calendar years 2001-2003.

Findings

Prevalence of Pain Among Postacute and Chronic Care Residents

Pain prevalence—characterized as moderate or severe in the past 7 days or excruciating at any time in the past week—is common to both postacute and chronic care nursing home residents.

Figure 2.22. Percent of nursing home residents reporting pain, by type of resident, 2002 and 2003



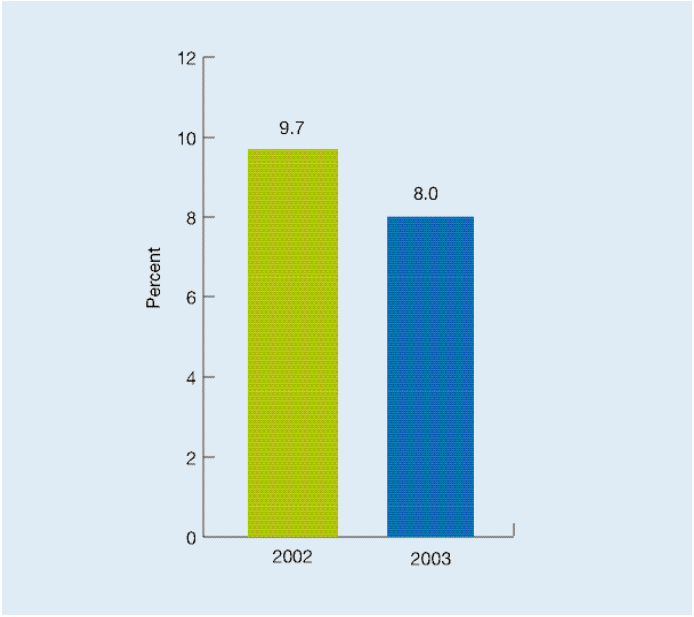
Source: Centers for Medicare & Medicaid Services, Minimum Data Set (see www.medicare.gov/nhcompare/home.asp).

- Between 2002 and 2003, pain prevalence declined 12% for postacute residents and 39% for chronic care residents (Figure 2.22).
- State variation of pain prevalence narrowed for both groups of residents, particularly for the chronic care population, which declined by half, from 22 percentage points (7% to 29%) in 2002 to about 10 percentage points (3% to 12%) in 2003.
- A study of the CMS Nursing Home Quality Initiative compared nursing homes participating in intensive quality improvement efforts against facilities that did not. Between the second quarter of 2002 and the fourth quarter of 2003, it was found:
  - For chronic residents' pain, a relative decline of 46% for the intensive group compared with a 33% decline in the nonintensive group (CMS, 2004; unpublished QIO data).
  - For postacute residents' pain, a relative decline of 17% for the intensive group compared with a 9% decline in the nonintensive group.

Prevalence of Physical Restraints Among Chronic Care Residents

According to regulations for the nursing home industry, restraints should be used only to ensure the physical safety of a nursing home resident, and CMS encourages gradual restraint reduction because of the many negative outcomes associated with restraint use.

Figure 2.23. Percent of chronic care nursing home residents with restraints, 2002 and 2003



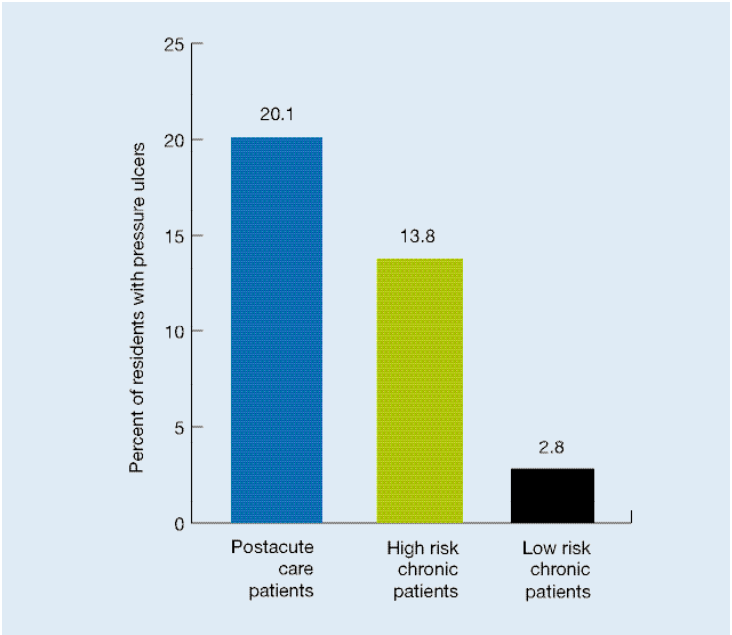
Source: Centers for Medicare & Medicaid Services, Minimum Data Set (see www.medicare.gov/nhcompare/home.asp).

- The percentage of chronic care residents with restraints dropped from 9.7% in 2002 to 8% in 2003, an 18% decline (Figure 2.23).
- The same Nursing Home Quality Initiative study noted above found a relative decline of 29% in the use of restraints for the intensive quality improvement facility group compared with a 17.6% decline among facilities in the nonintensive group (CMS, 2004; unpublished QIO data).

Presence of Pressure Ulcers Among Postacute and Chronic Care Residents

Pressure sores are important because they can be painful, take a long time to heal, and cause complications such as skin or bone infections. These sores are classified into four stages according to severity, and these measures include all stages.

Figure 2.24. Percent of nursing home residents with pressure ulcers, by type of resident, 2003



Source: Centers for Medicare & Medicaid Services, Minimum Data Set (see http://www.medicare.gov/nhcompare/home.asp).

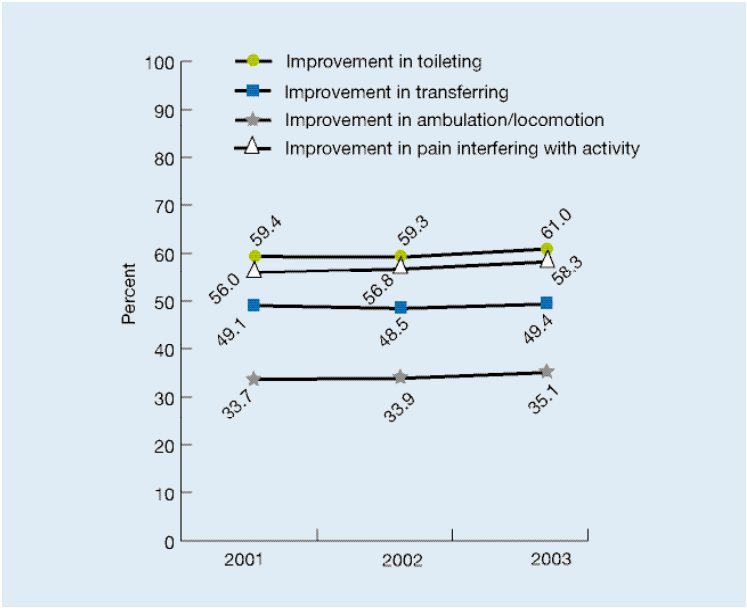
- One in 5 postacute care residents either developed pressure sores or had pressure sores that did not get better between their 5th and 14th day assessments (Figure 2.24).
- For chronic care residents, 13.8% of high risk residents had pressure sores on their most recent assessment compared with 2.8 % of low risk residents.[iii]

[iii] High risk residents are those who are in a coma, who do not get the nutrients they need, or who cannot move or change position on their own. Conversely, low risk residents can be active, can change positions, and are getting the nutrients they need.

Improvements in Mobility in Home Health Episodes

Four mobility measures are used to describe how well a home health patient can get around his or her home.

Figure 2.25. Percent of home health episodes showing mobility improvements, 2001-2003



Source: Calculated by the Center for Health Services and Policy Research, University of Colorado, from OASIS data.

Note: The four measures that describe how well a home health patient can get around the home are described as follows: *improvement in toileting* = improved ability to get to and from the toilet; *improvement in transferring* = improved ability to get in and out of bed; *improvement in ambulation/locomotion* = improved ability to walk or move around; *improvement in pain interfering with activity* = percent of patients with less pain when moving around.

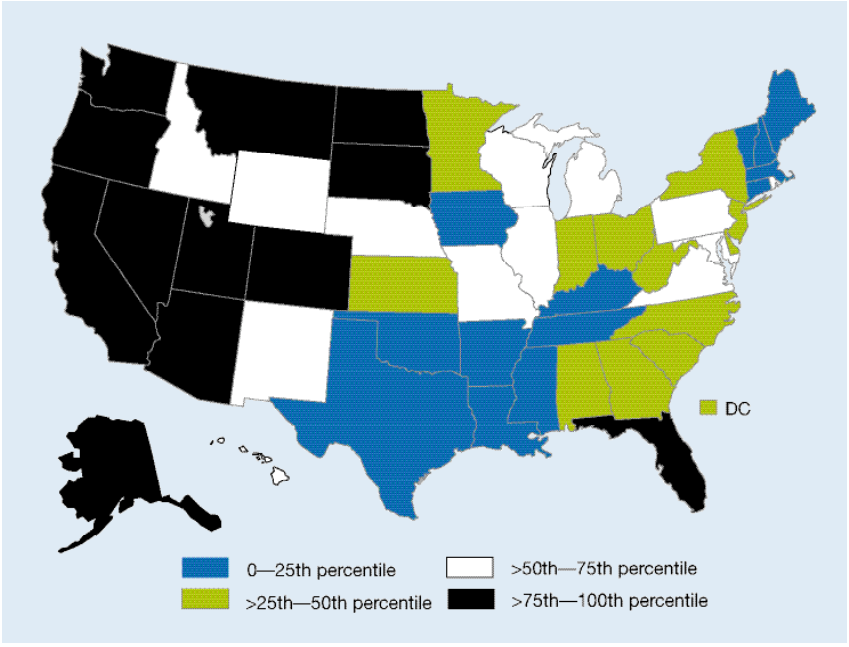
- All four measures showed statistically significant improvement between 2001 and 2003 (Figure 2.25).
- The category in which most improvement occurred—2.3 percentage points—was pain interfering with activity.

Acute Care Hospitalization of Home Health Patients

Hospitalization, improvement so that care is no longer needed, and death of the patient are among the possible end points to an episode of home health care. On average, just over a quarter (27.87%) of home health episodes end in hospitalization.

Figure 2.26. State variation in percentage of home health episodes with acute care hospitalization, 2003

[National average = 27.87%]



Source: Calculated by the Center for Health Services and Policy Research, University of Colorado, from OASIS data, calendar year 2003.

Note: Values for quartiles are: 0-25th percentile=30.86%-36.94%; >25th-50th percentile=27.84%-30.61%; >50th-75th percentile=24.41%-27.65%; >75th-100th percentile=20.04%-24.14%.

- The percent of home health episodes ending in hospitalization varies from 20%-30% percent among States. Twelve States had lower (better) rates (i.e., in the top quartile) while 13 had higher rates (i.e., in the bottom quartile) in 2003 (Figure 2.26).

List of Measures: Nursing Home and Home Health Care

Measure	Year	National estimate	National table number	State table number
Nursing facility care:				
Percent of residents whose need for help with daily activities has increased	2003	15.24	xxx	1.97
Percent of residents who have moderate to severe pain	2003	6.73	xxx	1.98
Percent of residents who were physically restrained	2003	8.01	xxx	1.99
Percent of residents who spent most of their time in bed or in a chair	2003	4.40	xxx	1.100
Percent of residents whose ability to move about in and around their room got worse	2003	11.98	xxx	1.101
Percent of residents with a urinary tract infection	2003	8.39	xxx	1.102
Percent of residents who have become more depressed or anxious	2003	14.56	xxx	1.103
Percent of high risk residents who have pressure sores	2003	13.83	xxx	1.104
Percent of low risk residents who have pressure sores	2003	2.77	xxx	1.105
Percent of low risk residents who lose control of their bowels or bladder	2003	46.35	xxx	1.106
Percent of residents who have/had a catheter inserted and left in their bladder	2003	5.66	xxx	1.107
Percent of short stay residents who had moderate to severe pain	2003	22.11	xxx	1.108
Percent of short stay residents with delirium	2003	3.26	xxx	1.109
Percent of short stay residents with pressure sores	2003	20.14	xxx	1.110
Home health care:*				
Outcome: improvement in upper body dressing	2003	63.40	xxx	1.111
Outcome: improvement in management of oral medications	2003	36.46	xxx	1.112
Outcome: improvement in bathing	2003	58.46	xxx	1.113
Outcome: stabilization in bathing	2003	91.59	xxx	1.114
Outcome: improvement in transferring	2003	49.40	xxx	1.115
Outcome: improvement in ambulation/locomotion	2003	35.09	xxx	1.116
Outcome: improvement in toileting	2003	61.01	xxx	1.117
Outcome: improvement in pain interfering with activity	2003	58.32	xxx	1.118
Outcome: improvement in dyspnea	2003	55.06	xxx	1.119
Outcome: improvement in urinary incontinence	2003	47.37	xxx	1.120
Outcome: improvement in confusion frequency	2003	41.11	xxx	1.121
Outcome: acute care hospitalization	2003	27.87	xxx	1.122

Note: See Tables Appendix for national and State tables listed above.

*Home health national estimates were incorrectly listed in the initial printing of the 2004 NHQR. Estimates listed above are the proper estimates.

References

1. Jones A. National Nursing Home Survey: 1999 summary. *Vital Health Stat* 2002;13(152).

2. National Center for Health Statistics. National home and hospice care data. Data highlights—selected tables, charts, and graphs. Trends from 1992, 1994, 1996, 1998, and 2000. Hyattsville, MD: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics; 2004. Available at: ftp://ftp.cdc.gov/pub/Health_Statistics/NCHS/Datasets/NHHCS/Trends/TABLE1HHC2000.pdf. Accessed November 4, 2004.

3. Institute of Medicine. *Improving the quality of care in nursing homes.* Washington, DC: National Academy Press; 1986.

4. General Accounting Office. Nursing home quality: prevalence of serious problems, while declining, reinforces importance of enhanced oversight. Washington, DC: General Accounting Office; 2003. Report No. GAO-03-561. Available at: http://www.gao.gov/new.items/d03561.pdf. Accessed July 27, 2004.

5. General Accounting Office. Medicare home health agencies: weaknesses in Federal and State oversight mask potential quality issues. Washington, DC: General Accounting Office; 2002. Report No. GAO-02-382. Available at: http://www.gao.gov/new.items/d02382.pdf. Accessed July 27, 2004.

6. Institute of Medicine. *Improving the quality of long-term care.* Washington, DC: National Academy Press; 2001.

7. Centers for Medicare & Medicaid Services. NHE tables: table 2: national health expenditures aggregate amounts and average annual percent change, by type of expenditure: selected calendar years 1980-2002; 2004. Available at: http://www.cms.hhs.gov/statistics/nhe/historical/t2.asp. Accessed June 8, 2004.